THE FARMERS' CABINET,

AND

AMERICAN HERD-BOOK,

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

"The Productions of the Earth will always be in proportion to the culture bestowed upon it."

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Editorial.

THIS Number of the Cabinet being the first of another volume, and the Proprietor and late Editor, having associated in preparing and arranging its materials, there would seem a propriety in introducing themselves to their readers, in the new capacity of joint-editors, by a brief exposition of their views. Recollecting, however, that from time to time, for the six years that the Cabinet has claimed the attention of the Agricultural community, the views of its conductors have been freely expressed, and its objects as freely explained, we do not feel that there is much for us now to say, that can be new, or that can throw further light upon the ground that should be occupied by a farmer's monthly paper. When we say, as was said in the first Number of the first volume of the Cabinet, "that it is designed to promote the interests of practical agriculture," we throw open a field as broad as can be desired for an agricultural paper, and express in these few words, almost all that may be necessary to designate the goal, to the attainment of which, our efforts will continue to be directed. "To eat his bread in the sweat of his face," was early promised as man's inheritance. We purpose to strike into no new path—we make no promise of a "royal road," that shall lead to luxuriant pastures and well filled barns, without the toil of travel.

To him who is at all conversant with former modes of tillage—who recollects the state of agriculture in this vicinity, even so lately as fifty years ago, it must be obvious, that if other arts have made bold advances, that of agriculture has by no means, been stationary. We ask for the character of the farmer, credit for the enterprise and perseverance, he so richly deserves, and with the lack of which, he is so often unjustly charged. The average produce per acre, in corn, wheat and grass, has probably, more than doubled in Pennsylvania and the adjacent states, within the last half century. And is it possible that this should have been the case, if our farmers had been indifferent to the progress of every thing else around them, and had only treated their lands with the exhausting processes, that follow upon inactivity and lack of thrift? Who that is fifty years old, does not recollect the introduction of clover—the use of plaster and of lime, and the effects that were at once produced by these additional means—these fresh stimulants, that have ever since been spreading and multiplying themselves in all directions, and in the hands of the skilful manager, with a success, that has made fields that were barren, to laugh with abundance?—Look again at the use of marl, in parts of New-Jersey, Delaware, Maryland and Virginia, and the laborious industry with which these regions are explored, and their rich treasures borne away, to change the very character of the soil, and to treble and quadruple the crops of its owner. Has there been no intelligence—no forecast manifested in these operations? It is to enlighten this intelligence—to throw forward this forecast, and to place within reach of every farmer, every facility for the enriching of his land, and the improvement of his condition, that the efforts of the Farmers' Cabinet will be directed. And is the farmer to derive no benefit from these efforts? This appears to us impossible. Had the man who first introduced the artificial grasses—who first used plaster, lime and marl, been able to keep the secret of their effects to himself;—if this knowledge had not been spread far and wide by books, and by conversation, what, we would ask, would now be the state of our agriculture? Knowledge delights in its own diffusion; and the great improvements to be witnessed in the face of the country, are fairly attributable to the rapid spread of every species of information, tending to enlighten the farmer in his calling. Who that recollects the hard and watery potatoe, that he was obliged to be satisfied with fifty or sixty

years ago, is not surprised at the change which care and cultivation have brought about, in the character of this root? Witness the introduction of the Revolving Horse-rake—a simple machine, it is true, but hardly yet duly appreciated;—and the consequences resulting from the efforts so successfully made to improve the stock of cattle, horses, sheep, &c. These are mentioned as a few of the numerous instances that illustrate the onward march of our general agriculture; and to show the probability of a continued progress.

It shall be the earnest endeavour, as well as the duty of the Editors, to throw before the readers of the Cabinet, the information which their extensive correspondence, and exchange of papers, as well as other means, may put them in possession of, that shall have a tendency to promote the interests of this important branch of national industry. And we respectfully and earnestly invite a continuation of communications from practical men. They have heretofore enriched our pages, and given to them an interest, which we are particularly desirous to sustain. We are far from wishing that the subjects embraced on our pages, shall *seem* even, of an exclusive character. We do not mean that they shall be confined to lime, the plough and the bullock, but we would of choice occupy a much broader field. Domestic education, and subjects of domestic economy, are of continual interest to the farmer, and will not fail to claim our attention;—and why may we not here urge our *female* friends, more frequently to throw in *their* mite, and give increased variety and life to our matter-of-fact pages? Natural phenomena—general statistics—incidents of travel, that have a bearing upon the leading objects of our work, and a thousand other subjects interesting to the farmer at his fireside, and the family group around his table, will continue occasionally to fill a column, and thus be thrown into common stock, for the common good.

To promote the interests of agriculture, we repeat, will be our object: we invite its friends to co-operate with us, and make the Farmers' Cabinet worthy of the great cause it advocates—worthy of the community in which it is published, and of the class among which it circulates.

Private credit is wealth—public honour is security: the feather that adorns the royal bird, supports his flight; strip him of his plumage, and you fix him to the earth.—*Junius.*

Culture of the Vine.

We notice a letter from Mr. Longworth, of Cincinnati, to the Editor of the Horticultural Magazine, published in New York, in which some useful observations occur on this subject. Mr. L. has been long known as a distinguished amateur in things of this sort; and the vine particularly has received from him a large share of judicious attention. He has given up mostly, if not altogether, the attempt to cultivate the European species, and has found his labour best rewarded by procuring and improving the best varieties of the native vine. The result of his experience in this particular is worthy of note. The varieties of the indigenous vine in this country, and one of the best modes of ascertaining the fitness of soil and situation for the successful growth of this delicate fruit, would no doubt be by observing the size and flavour of the wild grape as it is found in its native state. On the Eastern Shore, particularly in the lowest part of the peninsula, the native grape will be found, if our recollections do not mislead us, excellent in all qualities that are requisite for making good wine. A light soil is especially adapted to the vine. We take the following from Mr. Longworth's letter:

"I have three varieties of native grapes which I consider far superior to the Catawba for the table. They have none of the hard pulp common to the Catawba, Schuylkill, Muscadel, and the Isabella. For the table they are equal to the Meunier, or Miller's Burgundy, and as free of pulp. One of them, which I first met with a few years since, I call the Ohio grape. The vine is perfectly hardy, a fine bearer, has never had the mildew or rot, and the branches very large, say four times the size of the Burgundy. I sent a bunch of these grapes to Boston last fall, but it was too long on the road to be in perfection. I will give five hundred dollars for a root of native grape that, in quality of the fruit and size of the bunch, shall surpass it. The other two are equally good for the table, perfectly hardy, and great growers.

"I was surprised, when East, to see no good native grapes. At my different vineyards, I have about sixty acres in grapes, but not all in bearing. Last season I had not half a crop, with the exception of one vineyard, where the fruit were abundant and fine.

"There is, perhaps, no fruit so much affected by circumstances of soil, position, and culture, as the grape. By taking the native vine the probabilities of success will be greatly increased, since its quality may be better known, and the necessary situation as it respects soil and exposure more surely ascertained."—*Balt. Amer.*

For the Farmers' Cabinet.

On Soiling Cattle.

Mr. Editor,—In addition to Mr. Jabez Jenkins's very interesting and satisfactory statement relating to the soiling of cattle during the summer, and in which he has proved that the system, even in this country, of high wages and low rents, *will pay*, I beg to be permitted to copy from the second volume of the Agricultural Memoirs of the Philadelphia Society, extracts, contained in a letter addressed to the Society, by John Lorain, on this highly important subject, which ought, assuredly, to claim more attention than it does at the present day, from our practical men. But it is passing strange, that we have no instances on record, so far as I know, of perfect success in the attempt to *fatten* cattle by a system of soiling; and although the failures, both in the case of Mr. Jenkins and of Mr. Lorain, are recorded, and appear quite sufficient to account for all, yet it does not appear that either of these gentlemen has ever attempted to rectify the very palpable error into which they had fallen; although both have had the magnanimity to acknowledge it: this appears strange indeed, and leaves the field open for another experiment, which would scarcely be found to fail, one would suppose, after the ground of failure had been so marked and pointed out. And it is a matter of astonishment, that Mr. Lorain should a *second* time have attempted to feed with the second cut of clover, seeing, as he already had, the effect on the health of the cattle, in the first year of the experiment! But being thus forewarned, have we not a right to expect that the next person who makes the experiment will *succeed*, by preparing beforehand a succession of crops suitable for the purpose, and not be compelled to feed with that food which has repeatedly been found to be improper, or to attempt the experiment on cattle, the refuse of a drove, and confessedly of an unsuitable age? *I guess we have*, and then, I for one, am in no fear for the result. Mr. Lorain says, "I am now trying to *fatten* 27 *young* healthy steers, rising up from about five to nine hundred pounds; also seven three-year old runts and a cow, by soiling them in yards, where they have shelter from sun and rain, and good spring water at will; fresh grass being also given them twice a day, under my own inspection. For two years past I have not succeeded, owing, as I suppose, to deficiency of spear-grass; for they improved as fast as expected, until the second cut of clover, which caused a frothing from the mouth; and they would scarcely eat a sufficiency to keep them alive. But the *economy* of feeding in this way, has not been exaggerated by reputable European writers; in this I think I cannot be mistaken, as correct accounts are kept for every field and transaction of my farm. One man, and a boy twelve years old, feed the above, together with six horses and three milk cows, one bull and a large ox, which is grain fed; and where the grass is good, the labour is not hard, the manure being worth more than their labour. And although Dr. Anderson's mode of making hay under cover, may be rather visionary on an extensive scale, here it may be beneficially practised, and not a fork-full lost by over-feeding." B.

July 13th, 1842.

For th Farmers' Cabinet.

Wheat on Clover-lay.

Mr. Editor,—Numerous are the articles which have appeared from time to time in the Cabinet, recommending the sowing of wheat on clover-lay after one ploughing, and this in preference to an often repeated stirring, even when such treatment might be seasonable, and could be afforded without inconvenience or at extra cost of much labour. Now, I have six acres of clover-lay at the present time, which I wish to sow with wheat; the first crop of hay has been carried, and the second crop has shot six or eight inches in height—what is the plan which your practical readers would propose for my adoption? 1st. Would they recommend me to take another crop of hay, and after dunging the land, turn it down with a small and deep furrow, and sow wheat? Or 2ndly. Would they prefer that I should turn down the second crop of clover as manure, and sow the wheat after once ploughing? Or 3dly. Would they have the clover partially fed and the land turned over, so to lie for a season, then to be run back and worked with the harrows, and then turned down again, as has been proposed? I should say, the land is in good heart, and is rather stiff, yet by no means so as to require the turning in a heavy second crop of clover, to act *mechanically* as a pulverizer of the soil; while I am free to confess that I have never found great benefit from a dressing of green clover on light soils, where the action might be expected to be *chemical* chiefly; the effects of burying green crops, being rather to give a sudden spring to the wheat crop; a thing of all others, perhaps, to be deprecated at that season of the year. Nor, for the same reason do I, therefore, deem the dunging of the land to be recommendable—but I am dictating, rather than eliciting answers. I would also ask, although I have sufficient dung pre-

pared for the purpose abovementioned, ought I not rather to carry it on a twelve acre field of young clover adjoining, and there mix it this winter with bank-earth and muck; and after fermentation has passed, turn up the whole with a good allowance of quick-lime, *secundum artem*, and give it all in top-dressing early in the spring to the young clover, preparatory to a seeding with wheat the next autumn, according to the plan proposed in a late Cabinet! Remarking, that here will be a double quantity of land dressed, with a pretty good assurance of *doubling* the crop on twelve acres instead of six of clover, which would also give two crops of hay, and afford a seed-bed for the wheat, of double the value of a fresh coat of stable dung. I would therefore, respectfully propose to my friends to say what are their opinions of the following plan, viz: to turn all my stock into the second crop of clover abovementioned; so as to feed it down as quickly as possible, and cheat the tumble-bugs and other industrious families, who will be busy in collecting and burying the droppings, as cases for their eggs, almost as quickly as it falls; putting an end to their labours, by *tumbling them* to perdition with the ploughshare, before they have time to complete them; and upon this sow the wheat in good season. S.

July 18th, 1842.

For the Farmers' Cabinet.

Reasoning Faculty in Brutes.

Mr. Editor,—My young friends have been much amused and delighted with the article in the last Cabinet, on the sagacity of the dog, and in return have requested me to hand you the enclosed, which has been published in the Knickerbocker; the account is said to be worthy of all credence; indeed we know not at what point the reasoning faculty of brutes ceases. A Subscriber.

"A few years since we were passing by an orchard in which a yoke of cattle were pastured. The apples were ripe, the cattle were very fond of them, and those that fell were quickly eaten up by them. Gradually they had gathered from the branches all within their reach, and were now compelled to wait for such as fell off themselves. We observed one of the oxen to walk repeatedly around one of the trees, and make a number of ineffectual efforts to reach some of the fruit. Suddenly he stopped, took one of the branches in his teeth, and gave the tree several violent shakes. The apples rattled off merrily; he let go the branch, and had a hearty meal as the reward of his sagacity. The only question is, did he design to shake off the fruit? It can only be said, if a man had wished to accomplish that effect, he could not have devised a more successful method, or gone more directly to the end in view; why then refuse to the one, what we grant to the other? By common consent, the title of "half reasoning" has been awarded to the elephant, and a multitude of proofs might be cited to show that the appellation is not undeserved. He has been known after stepping upon a bridge, to refuse to cross it, as unsafe, and prefer swimming a river with his attendant, to passing the bridge. A shilling was thrown to an elephant in a menagerie; it rolled to the side of the place in which he was confined, and lodged close to the foot of the upright boards that formed the partition. The phrehensile part of the trunk, delicate as it is, could not grasp it, and the spectators who saw him repeat his trials, concluded he would abandon the attempt. He, however, reasoned differently.—Placing his trunk close to the plank, and immediately over the piece of money, he blew with all his force, and the shilling immediately dislodged and fell within his reach. In this case there was evident reflection, a reasoning from cause to effect, and a nice adaptation of means to the end; in other words there was design.

"We have noticed in a late number of the London Lancet, an interesting account of intellectual developement in a couple of dogs, belonging to a French gentleman of the name of Leonard, resident in London. The dogs are of the Spanish breed, and the writer says, when introduced to him by Mr. Leonard, with true French politeness, both bowed very graciously, and seated themselves on the hearth-rug. A great variety of experiments were then made with the animals, such as through the exercises of the *menage*, exchanging a variety of different coloured cards with each other, bringing to their master meat, bread, or cards, as commanded; Mr. Leonard sitting with his back to the dogs, and giving his directions in such a manner, and at the suggestion of the writer, as to put their intelligence to a severe test. So rapid were his orders, that without a perfect understanding of his words, obedience would have been impossible. The writer adds:

"'After many other performances, evincing the wonderful sagacity and perception of the dogs, Mr. Leonard invited me to play a game of dominoes with one of them. The younger and slighter animal then seated himself on a chair at the table. Mr. Leonard and myself placed ourselves opposite. Six dominoes were placed on their edges in the usual manner before the dog, and a like number before me. The dog having a double number, took it up in his mouth and put it in the

middle of the table; I placed a corresponding piece on one side; the dog immediately placed another correctly, and so on until all the pieces were engaged. Other six dominoes were given to each, and I intentionally placed a *wrong number*. *The dog looked surprised, stared very earnestly at me, and at length growled, and finally barked angrily.* Finding that no notice was taken of his remonstrances, *he pushed away the wrong domino with his nose, and took up a suitable one from his own pieces and placed it in its stead.* I then played correctly; the dog followed, and won the game. His play must have been the result of his own observation and judgment, as not the slightest intimation was, or could have been given by Mr. Leonard to his dog.' Mr. Leonard is a gentleman of fortune, and the instruction of his dogs has been taken up merely for his own amusement and diversion. He has found that by inducing the animal to repeat again and again what was required, not only would the dog become capable of performing that specific act, but that part of the brain which was brought into activity by the mental effort, would become more largely developed, and hence a permanent increase of mental power be obtained. The fact is in accordance with the known laws of the physiology of the nervous system.

"Such instances of intelligence might be multiplied to any extent, but it is unnecessary. Every person who has observed the actions of horses, dogs, foxes, and indeed all other animals, must have noticed numerous cases involving the exercise of memory, design, and a perception of the relation between cause and effect; and thus proving that reason, or the power of combination and inferring, is possessed by brutes. The power, it is true, is less perfect than in man, a circumstance we should naturally infer from the greater proportionate volume of brain, and its more perfect arrangement in the latter than in the former; still it may reasonably be inferred, that the difference is only in degree, and not in kind.

"We come to the conclusion then, that the question with which this paper commences should be answered in the affirmative, that brutes do reason. A general belief of this fact would, it is believed, materially change the treatment which they, under the mistaken idea that they were destitute of intellect, have been accustomed to receive from man. Placed by the Creator at the head of 'earth's countless myriads,' man's station is sufficiently elevated and responsible without assuming distinctions, or imputing inferiorities, which do not exist.

"It may not be amiss to remark here, that the question under discussion, has no connection with the duration of mind, or the glorious destinies of man hereafter."

Dunged Wheat.

I HAVE made the following observations with relation to the ears of wheat. In one field there were, for acres together, generally ten chests on a side in an ear; about four of the middle chests on each side containing five grains, viz: two on each side the middle grain, the upper and lower chests falling off gradually to four, three and two grains in each. I went into another field, and could not find more than eight or nine chests in any ear, nor in any of the middle chests more than three grains, viz: one on each side the middle grain, the upper and lower chests falling away to two, and even to one grain each; but this land had been *well dunged*. In another field, it was manifest that the part which had been dunged, did not carry so long and full an ear as the land that had been trodden by the fold and sown after one ploughing; many of these last having ten chests, and five grains in each side of the middle ones. On this occasion I observed the partitions of the chests to open, in order to let out the blossoms; which, when shot forth, they closed again, and the blossom hung on the outside by a single filament as fine as a cobweb. Until I made this discovery, I could not conceive how so fine a thread could thrust out the blossom. I pulled up many of these roots of wheat, and found that some of them had ten tillers or off-sets each. Now if some roots of wheat have ten tillers each, and others but two or three—if some ears of wheat have ten chests of a side, and others but six or seven—if some ears have five grains in a chest and others but two or three, I leave it to be considered what encouragement there is to sow but little land, and see that this is good and in order. The ten-chested ears, at four middle chests each side, with five grains each, make forty grains; and twelve other chests at three grains, make thirty-six —say, seventy-six grains to the ear; while the weak wheat has but twenty-six grains in an ear, and six tillers less; these tillers also, holding but in proportion to the top ears.

LISLE.

HAPPINESS is not in a cottage, nor in a palace, nor in riches, nor in poverty, nor in wisdom, nor in ignorance; nor in active, nor in passive life;—there may be evil, as well as good, in all these. He who possesses Happiness, must *feel* it, in the *mind*.

For the Farmers' Cabinet.

The Dew.

Mr. Editor,—In Col Smith's Essay on the application of lime to soils, see page 337 of the Cabinet, volume 5, there is this observation: "Dews are occasioned by a cool atmosphere coming in contact with the exhalations from the heated earth, or *vice versa;* and hence, a condensation of the aqueous particles: the dew-drop of evening is first seen upon a blade of grass at its highest point." And to this theory many will be quite ready to subscribe. But in a very valuable old work on husbandry, under the head of "Experiments on the growth of seeds," I find the following remarks, which seem to give another view of the case, and to me I must confess, a novel and very interesting one. Will you permit me to copy them for insertion in the Cabinet, and oblige

An Old Subscriber.

"I had often observed in the spring time, when the blades of barley first began to shoot out of the ground, dewy drops standing on the points of the blades every morning, even when the grass of the field had no dew thereon. This made me believe they proceeded, not from the descending or circumambient vapours of the air, but from juices drawn up by the roots, which passed upwards through the tubes, and issued out at the top; which, according to my conjecture, was true, as appears by the following experiment. I took a pot of fine garden-mould, the earth but moderately moist, and I put into it a quantity of barley, on which, when it had shot up about an inch in height, there appeared at the end of the points, the said pearly drops. These I wiped carefully off, and took up half a dozen of the blades by the roots; then with a pair of scissors I cut off the roots close to the grains of barley, and planted them in the same earth again; but on the tops of these blades, whose fibrous roots I had cut off, not the least moisture appeared the next morning; although on all the others, the same pearly drops had settled as before, and although the amputated blades retained their vigour, through the moisture contained in the earth. This shows, that those watery globules are not collected from the moisture of the outward air, but from the juices drawn up from the roots. I again wiped off the said drops, and within three hours after, found the tops of the perfect blades supplied with fresh drops, which, when they swelled to bursting, trickled down the stalks, and soon again renewed themselves. From hence it appears, that moisture must hold proportion to the roots; and it gave me further occasion of admiring the wisdom of God in this appointment; for, observing that these exudations are, as soon as the sharp-pointed blade appears, continually sent forth, we may ground our judgment on reason and probability, that this moisture immediately begins to discharge itself as soon as the spear is shot through the end of the barley-corn, and which softens the earth upwards, as the blade pushes forward, and facilitates the easy passage of the spear; and from hence, I conjecture it is the same in all the grassy, sharp-pointed plants, for the same reason. The roots of grain and grass terminate in sharp points as they tend *downwards;* and seeing it is thus in the spires which *ascend*, I suspect that there is a continual exudation of a moist liquor from the points of the roots to moisten and soften the earth before them, the more to facilitate the roots penetrating *downwards*, as it assists the blade to push *upwards*."

Common Rain Gage.—"In explanation of the principles on which the rain gage is constructed, and in answer to various inquiries which have been made on the subject, it is proper to observe, that the area of the funnel at the top of the cylinder, in its widest part, being eight times the area of the cylinder below, one inch in depth of rain falling in the open air, and received through the widest part of the funnel, will fill eight inches in depth of the cylinder; and consequently, the moveable rod in the cylinder, being attached to a hollow, floating bulb, will be raised eight inches above the crossbar at the top of the funnel. This space of eight inches, is divided into one hundred equal parts, or small divisions, so that each part or division above the crossbar, will indicate the one-hundreth part of an inch of rain fallen; and one hundred of these parts or divisions, covering eight inches on the rod, will indicate one inch of rain fallen, and must be registered accordingly."

Relief of Choked Cattle.

Messrs. Gaylord & Tucker,—As I was perusing the January Number of the Cultivator, I noticed that your correspondent, J. V., recommended a hickory ramrod, or piston, to relieve choked cattle. I have known cattle killed by the use of such an instrument, it bursting or breaking the pipe. The best method and easiest, is to take a lump of lard (cold,) about the size of a hen's egg, and a spoonful of powder mixed with it, and haul out the tongue and throw it into the throat; let the tongue go back, and they are relieved in one minute.

J. Judson.

Albany Cultivator.

The Croton Aqueduct.

THIS stupendous structure is now completed, and in a few weeks, at furthest, the city will have a foretaste of the thousand benefits it is destined to confer. Our citizens may not be generally aware, that in this magnificent work they are surpassing ancient Rome, in one of her proudest boasts. None of the hydraulic structures of that city, in spite of the legions of slaves at her command, equal, in magnitude of design, perfection of detail, and prospective benefits, this aqueduct. The *main trunk* consists of an immense mass of masonry, six feet and a half wide, nine feet high, and forty miles long, formed of walls three feet thick, cemented into solid rock. But this water channel, gigantic as it is, is far from being all the work. The dam across the Croton, which retains the water in a grand reservoir, is a mound of earth and masonry, forty feet high, and seventy feet wide at the bottom, and has connected with it many complicated, but perfect contrivances, to enable the engineer to have complete control over the mighty mass of water. The river, thus thrown back towards its source, will form a lake of five hundred acres, which will retain a supply for emergencies, of some thousand millions of gallons, and also offer, as a collateral advantage, many picturesque sites for country seats, upon the woody points which will jut out into its smooth basin. A tunnel leads the water from this reservoir into the aqueduct, and eleven more of these subterraneous passages occur before reaching Harlem river, having an aggregate length of seven-eighths of a mile, and many of them being cut through the solid rock. At intervals of a mile, ventilators are constructed in the form of towers of white marble, which give to the water that exposure to the atmosphere, without which it becomes vapid and insipid; and these dazzling turrets mark out the line of the aqueduct to the passengers upon the Hudson.

The streams which intersect the line of the structure, are conveyed under it in stone culverts, the extremities of which afford the engineers an opportunity of displaying their architectural taste. Sing-Sing creek, with its deep ravine, is crossed by a bridge of a single eliptical arch of eighty-eight feet span, and a hundred feet above the stream. Its unusually perfect workmanship was proved by its having settled but one inch after the centres were removed. The view of its massive grace from the narrow valley beneath, is one of the most striking points upon the line. Sleepy Hollow, well known to the readers of imaginative lore, is spanned by a series of graceful arches.

The bridge crossing Harlem river, has been the subject of much controversy. The admirers of magnificent symmetry and perfection, and those interested in preserving the navigation of that stream, have warmly advocated the erection of a bridge, over which the water might pass upon its regular level; while the friends of more measured economy recommended a lower and cheaper structure, to which pipes should descend and rise therefrom, after the manner of an inverted syphon. The plan finally adopted, is that of a high bridge, but still with its surface ten feet below the usual grade, which falls fourteen inches to the mile. It is a quarter of a mile long, one hundred and sixteen feet above high water, and its estimated cost exceeds three-quarters of a million. Across this the water is conveyed in huge iron pipes, protected from the frost by a covering of earth, four feet deep. Near Manhattanville, is a tunnel a quarter of a mile long, through the hill at that place; and its valley is crossed by pipes, descending one hundred and five feet. Clendenning Valley is passed at an elevation of forty feet, and arches of appropriate size upon the lines of the streets, leave symmetrical carriage-ways and foot-paths.

We paid a brief visit yesterday to the two great reservoirs of this stupendous aqueduct. The receiving reservoir, at Yorkville, thirty-eight miles from the dam at Croton river, is in two divisions, both covering a space of thirty-five acres, capable of containing one hundred and sixty millions of gallons. It is enclosed by granite walls of solid masonry, roughly finished. The bottom of the basin is the natural soil.

The distributing reservoir at Murray's Hill, in Forty-second street, is a much finer and more expensive work. It is nearly square, and covers an area of about five acres. The bottom is made of puddled clay, as smooth, hard and water-tight as marble itself. This area is 440 feet square at the base, and is divided in the centre by a wall of granite, nineteen feet thick at the bottom, and four at the top. It is surrounded by a wall, also of granite, composed of three distinct columns of solid mason work. The outer column is five feet thick; the second six, and the third, or inner one, a lining of granite, about fifteen inches in depth, placed upon a concrete masonry, above thirty feet thick at the base. From the outside to the middle wall—the thickness of neither included—the distance is fourteen feet; and from the extreme of the outer wall to the inner angle of the third, is sixty feet—the three walls uniting at the top. At a distance of ten feet from each other, are thick

cross walls with solid arches, thus binding the whole into one solid, imperishable mass. From the top of the north-east cornice to the level of the street, the distance is fifty-six feet. The depth of the reservoir is forty feet; and it will contain water to the depth of thirty-six feet, or about twenty-two millions of gallons—as computed a few days since by James Renwick, Jr., one of the engineers employed on the work.

At the east end of the division wall, a well has been sunk to the depth of fifty feet, communicating with a sewer below, and forming a waste-wier for the discharge of the surplus water, when it rises in the reservoir above the height of thirty-six feet. At the bottom of the well is laid a block of granite, weighing seven tons; and still further to break the fall of the overflowing stream, and to prevent it from wearing away the stone, water to the depth of six feet rests permanently at the bottom. From the well, the waste water is conveyed by a sewer nearly a mile to the North river.

The style of architecture is Egyptian—well fitted by its heavy and imposing character for a work of such magnitude. The summit of the walls around the whole area, is flagged, and will be provided with a heavy iron railing, forming a beautiful and sightly promenade, twenty feet in width. The grounds immediately around the work have been purchased by the corporation to protect it from encroachments. The receiving and discharging pipes are two in number, each about three feet in diameter. It is now nearly four years since the reservoir was first commenced; and during the working season, on an average, about four hundred men have been constantly employed upon it, besides great numbers employed in the winter season in bringing materials. During the whole time no lives have been lost by accident. Two men had their legs broken by a downfall of the banks—and this is the extent of the injuries that have been sustained. The whole cost will not be far from $500,000.

Such is a condensed but comprehensive view of this noble structure. It is now completed, with the exception of the high bridge. The bridge will occupy two years more, but a temporary pipe has been laid over the river upon the coffer-dams of the bridge, which will afford us a supply of water for two or three years, until the completion of the entire work. Its estimated cost, owing to the changes of plan, rise of labour and provisions, &c., has risen from five to twelve millions—a great sum abstractly considered, but a trifling one compared with the benefits resulting from the work.—*From the New York Tribune.*

For the Farmers' Cabinet.

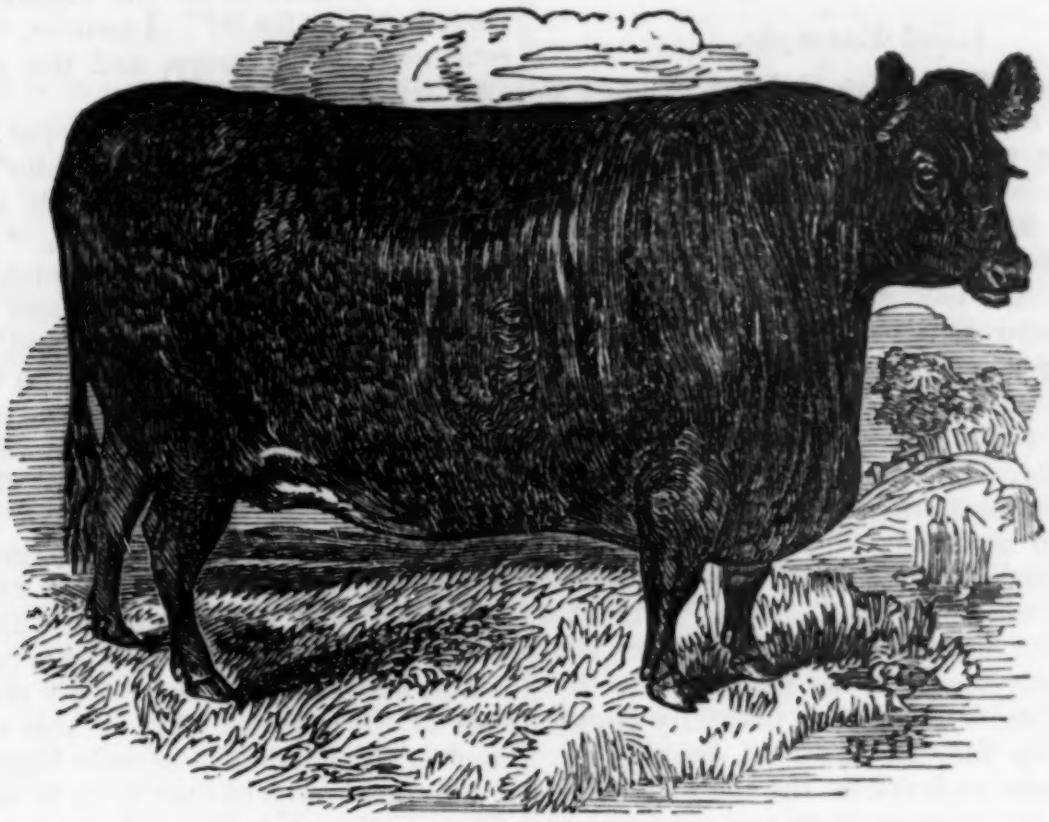
The Electric Fluid.

During the very severe thunder-storm of friday, the 1st of July, a cherry tree of large size, standing within the range of the electric fluid, on the Bristol turnpike road, just beyond the church of All Saints, exhibits ample proof that the injury done, was occasioned, not by what might be termed the *stroke*, but by the expansion of air contained within the body of the tree itself—just in the way that it is now ascertained, the destruction of Natchez was effected by the expansion of air contained in the buildings themselves; and which burst forth, carrying the roofs and walls with it, to supply the vacuum that had been occasioned by the sudden evaporation of the atmosphere above them. The tree abovementioned, is split through the very centre of its trunk, the bark having been blown off on the south and north sides of the tree only, where it now hangs in strips, without showing the least signs of fire; the rent of the body having taken place in these directions, and penetrating through and through the trunk. And the conclusive facts, that the rent was occasioned by the bursting forth of the internal air is, that thin fibres of timber are attached to the opening, all pointing *outwards*, and extending the length of the finger beyond it, yet still adhering to the internal parts of the tree; having been *blown out* by the air which escaped at the instant of the catastrophe. And further, a person who was passing out at an adjoining gate at the time, says he was blown across the turnpike road, against the fence on the opposite side; remarking that the heat he experienced at the instant, was inconceivably great.

Now, this to me, is a new feature in the "Theory of storms and their effects;" and may it not be found to account for many of those remarkable phenomena, which we often witness on examination of the eccentric effects of the electric fluid in its passage to the earth; showing the probability, that the destruction of many of those trees which are said to have been struck by lightning, has been occasioned merely by the violent expansion of internal air, rushing forth to supply the vacuum formed by intense heat, and a sudden evaporation of the atmospheric air around them. Would your valuable correspondent, "Observer," allow us the benefit of his well-tried judgment and experience on this very important subject? possibly to him there may be nothing new in all this.

S. T.

Philadelphia, July 4th, 1842.



THE GALLOWAY HEIFER.

This cut is the portrait of a beautiful heifer, deservedly called "The Queen of Scots," bred by Mr. Nurie, and grazed by Mr. Wright, of Rougham, in Norfolk. The following were her proportions: height of shoulder, 5 feet 2 inches; length from nose to rump, 10 feet 4 inches; width across the hip, 2 feet 6 inches; across the middle of the back, 3 feet; across the shoulders, 2 feet 4 inches; girth of leg below the knee, 8 inches; distance of breast from the ground, 1 foot 3½ inches; width between the fore-legs, 1 foot 5 inches. The weight was 190 stones, of 8 pounds, or 1520 pounds. She was exhibited at the Smithfield cattle show, and her portrait engraved under the sanction of the club.

The Galloway cattle are straight and broad in the back, and nearly level from the head to the rump; round in the ribs, and also between the shoulders and the ribs, and the ribs and the loins, and broad in the loin, without large projecting hook bones. In roundness of barrel and fulness of ribs, they will compare with any breed, and also in the proportion which the loins bear to the hook bones or protuberances of the ribs. The Reverend Mr. Smith, the author of the Survey of Galloway, says, "When viewed from above, the whole body appears beautifully rounded, like the longitudinal section of a roller." They are long in the quarters and ribs, and deep in the chest, but not broad in the twist. The slightest inspection will show that there is less space between the hook, or hip bones and the ribs, than in most other breeds—a consideration of much importance; for the advantage of length of carcass, consists in the animal being well ribbed home, or as little space as possible lost in the flank. The Galloway is short in the leg, and moderately firm in the shank-bones; the happy medium seems to be preserved in the leg, which secures hardihood and a disposition to fatten. With the same cleanliness and shortness of shank, there is no breed so large and muscular above the knee, while there is more room for the deep, broad and capacious chest. He is clean, but not fine and slender, and well proportioned in the neck and chaps—a thin and delicate neck would not correspond with the broad shoulders, deep chest, and close, compact form of the breed; the neck of the Galloway bull is thick, almost to a fault; the head rather heavy, the eyes not prominent, the ears large, rough, and full of long hairs on the inside. The skin of the Galloway is loose, mellow, and clothed with long, soft, silky hair; thinner than that of the Leicestershire, but not so fine as that of the hide of the improved Durham breed; but it handles soft and kindly: even on the moor-land farms, where the cattle, during the greater part of winter, are fed on the scantiest fare, it is remarkable how little their hides indicate the privations they endure.

For the Farmers' Cabinet.

Good Example.

At page 255 of the Cabinet, volume 6, there is a very interesting paper on the value of a single example of good farming to a whole neighbourhood. The subject has been brought forcibly to my mind by a visit to the farm of the late and very justly lamented Mr. George Walker, of Holmesburg, where I witnessed by far the best ploughing that I have anywhere seen. To be sure it was on land that had just grown a crop of millet, for which crop I remember Mr. Walker was famous; and the grass had been mown according to the old farmer's direction, to his men, when he said, "leave the top standing if you will, it is the bottom half inch which I want;" on land without a weed or stone, and which had been thoroughly pulverized for so many years, that even on a soil by no means naturally *happy*, it broke up like an ash-heap, leaving the surface about as level as the top of a table, the effect of a narrow, deep and well turned furrow; which it was a caution to behold. I have often heard that in some parts of England, where it has long been the custom to encourage the art of ploughing, by setting apart days for public exhibition, and the award of premiums, the ploughmen have at length become so expert, that they can throw a furrow so straight, as to enable any one upon laying his head in one end of it, to see right out at the other end; and this in a furrow a quarter of a mile long! but have always considered the story a little on the hyperbole: here, however, in a furrow about one hundred yards in length, the same might have been done, for I do not believe, on measurement, that the furrow would be found to deviate two inches from a perfectly straight line. And then, the headlands first ploughed, upon which the horses turn out, continuing the furrow up to the line, with not so much as an inch of land unturned; this, with a full and decided setting in, left the reaches so nicely formed, as to be in appearance, like well made *beds*, the headlands forming the *pillows*. Here I witnessed a perfect system of tillage and cultivation, with its attendant advantages—a level surface and a clean and thoroughly pulverized soil; and some of our friends will be surprised when I detail the mode about to be adopted to fit this already well-broken, garden-like mould, for the reception of a crop of ruta-baga. As soon as the land is ploughed, it is to be well rolled and repeatedly harrowed; then the ridges are to be struck with one bout of the plough, and these are to be rolled on their tops, on which the seed is to be drilled. "What a labour!" I hear some one exclaim, "And what is to pay for it?" I answer, "the present and future crops, and the saving of after tillage."

Now, in this picture of improved husbandry, I see the hand of "the master" who introduced it on the spot where it is now so perfectly practised; and who, "although dead, yet speaketh" in the elegant arrangement of the pleasure-grounds and gardens, the well devised plantations, and the thorough system of cultivation, upon which so much depends the *quality* of the crop, and for which the late Mr. Walker was known to be, what is commonly termed *fortunate*. Upon the whole farm there are no cross fences, the land forming one enclosure, laid off in sections; by which much expense is saved and land gained, and on which a perfect system of soiling might be adopted.

But, how much of the beauty and loveliness of the present state of this establishment is attributable to female influence! it is only necessary to visit it to be convinced of this fact; and during my short stay, I was continually reminded of the last Dialogue between Frank and his Father, page 25, volume 5, of Cabinet, where Frank attributes to his sister Susan's management the superiority of her garden, and innocently remarks, that "all she does is with the fingers, while his is done by the rule of thumb;" and declares he fancies that he perceives a difference in the fragrance of Susan's flowers, when compared with his; and certainly, that they continue longer in bloom: while his father admits that it is not in his power to imitate his sister in the delicate and gentle manner in which she rears her tender charge, raising their drooping heads, looking them in the face, and calling them "my beauties."

But I owe an act of justice to the young man, whose *elegant* style of ploughing has called forth this very pleasant reminiscence. His name is Gilbert Wagner, and if I mistake not, he is one who is destined to become "an example to a whole neighbourhood."

Vir.

July 23d, 1842.

Liquid Manure.—"Although from the writings of agricultural chemists, it has been proved that one pound of urine will produce a pound of wheat, how seldom do we see it preserved at all! A writer calculates, that as much manure is lost in the escape of urine, as would, if properly applied, have an effect equal to the whole of the lime, the rape-dust and the bones that are used throughout England!"

For the Farmers' Cabinet.

"Sandy Point."

I HAVE been a good deal interested in looking over several letters in the Farmers' Register, in which the writer, A. Nicol, gives a "few memoranda," connected with the management of a considerable estate in Virginia. His first letter dates from "Sandy Point, March 17th, 1841." He is the general superintendent of an estate belonging to Robert B. Bolling, Esq., lying in the lower end of Charles' City county, Virginia; stretching along the James' river, for more than six miles, and containing about 8000 acres, nearly 2400 of which, are under cultivation. This letter states that "the whole of the soil is susceptible of the highest improvement," and wherever *lime* has been applied, the benefits resulting from it, have been very decided. The average crops for the last ten years, have been 5000 bushels of wheat, and 10,000 bushels of corn. About ninety slaves, nearly equally divided, as regards the sexes, are employed in agricultural labour. Seven carpenters, two blacksmiths, two sawyers, one weaver, one sick nurse, and nine old and infirm men and women, employed chiefly in spinning, winding, knitting, making baskets, horse collars, &c., may be added to the effective, labouring force of the farm. They are said to be comfortably lodged and clothed, and well fed; an ample allowance of meal, and half a pound of bacon, or its equivalent in beef, or fish, being daily cooked for each hand, together with a plentiful supply of seasonable vegetables. A hospital is kept for the accommodation of the sick, where there is a careful nurse to attend them. Thirty-eight horses and mules, and thirty-eight yoke of oxen are kept for farming purposes. Thirty cows, thirty-seven young cattle, something more than one hundred sheep and two hundred hogs, help to make up the stock of the farm. The general character of the cattle and sheep is inferior.

The land under cultivation, 2372 acres, is in four divisions: 1st. The Neck, or lower farm, of 600 acres. 2nd. Teddington farm, of 700 acres. 3d. Upper quarter farm, of 536 acres. And 4th. The Rowe farm also, of 536 acres. These divisions, till the early part of 1840, were under the management of separate overseers: since that time they have been united, under the care of A. Nicol, who says in the June number, 1841, "The estate will in future be cultivated as follows: the Rowe farm, of 536 acres; the Neck farm, of 600 acres; and 600 of Teddington, will each form one field, cultivated on the three shift system, of corn, wheat, clover: 100 acres of the Teddington farm, divided into five fields, will continue to be cultivated on the five shift system of wheat, clover, corn, wheat, clover; or one 20 acre lot in corn each year. The Upper quarter farm, of 536 acres, will be divided into four fields of nearly equal area, (134 acres,) to be cultivated in, 1st. wheat; 2nd. corn; 3d. wheat; 4th. clover—or one half in wheat, one fourth in corn, and one fourth in clover each year. Under this system, in 1842, all of the Rowe farm, of 536 acres, will be in corn, together with 134 acres, or one fourth of Upper quarter, and one 20 acre lot on Teddington. To this, will also be added, 30 acres of adjoining, and more recently reclaimed land, on Teddington, in all 720 acres. In 1843, the corn crop will comprise all of the Neck farm, of 600 acres; 134 acres of Upper quarter, and one 20 acre lot on Teddington, in all 754 acres. In 1844, the corn crop will comprise 600 acres of Teddington, together with one 20 acre lot, and 134 acres on Upper quarter, also equal to 754 acres. In each of these years, all the corn land will be sown in wheat, or oats, together with 134 acres, or one fourth of Upper quarter, after clover fallow, and one 20 acre lot on Teddington, also after clover fallow. In order to prepare the Upper quarter farm for the intended four shift system, one fourth of it, now in wheat, is sown in clover, for fallow in 1842, and the fourth of it, which comes into fallow this season, 1841, has a portion of it sown in oats; the remainder to be sown in peas, both intended to be ploughed under, as preparatory manuring. There will constantly be three different rotations on the estate—a three shift of corn, wheat, clover,—a four shift of wheat, corn, wheat, clover; and a five shift of corn, wheat, clover, wheat, clover. These various shifts are not adopted in consequence of any particular difference of soil, but more especially for ascertaining from actual results, on soils as nearly alike as possible, which of the rotations will eventually be the most profitable." On so extensive an estate, the profits resulting from different rotations, are subjects of very important inquiry. And indeed, not only where the operations are on so large a scale, is the rotation of crops important, but also on our small farms, of one, two, or three hundred acres. The five field system, of corn, oats, wheat, or rye, and then grass for two years, has been for some time in general favour among our farmers in Pennsylvania and Jersey. But the crops of wheat and rye have latterly been so precarious, that I think we shall watch with very considerable interest, the experiments at "Sandy Point." They will, at any rate,

remind us, that it is worth while to inquire if any other routine may advantageously be substituted for the one just mentioned.

"To complete the junction of the horse teams on the estate, since the new arrangement, Mr. Bolling has had a stable recently fitted up," with accommodations for forty horses. It is under the care of an old man and boy, whose business is to keep it thoroughly cleaned out and littered, as well as to have the horses fed, so that when the drivers come in at night, they have only to unharness, and clean down their respective teams. Materials were in preparation in the spring of 1841, for the erection of stabling for the accommodation of the working oxen; they having been heretofore kept after the general mode adopted, as the writer says, "in lower Virginia;" and might he not with too much correctness, have added, "in Pennsylvania and Jersey!" That is, after their day's work was done, they were turned into the yard, where their provender was scattered, for them to gather up, as best they might, or trample under foot, as a great deal of it, they ever must. The patience, the endurance, and the hard toil of the ox, deserve the kindness of his master; whose interests, we are persuaded, would be consulted by affording him the protection to which he is fairly entitled. There would be a saving of food, as well as a thrift and healthfulness in the beast, that would amply compensate, for the small extra expense and care, necessary to give him merely his due. When the yoke is replaced on his neck in the morning, how can the owner look in the quiet face of his ox, and recollect that last night, when he was released, he was turned into the barn-yard, unprotected from the snow, the hail and the wind, from the effects of which, he is now shivering all over, while the "tender mercies" of the master, are directing the gad that knocks the suspended icicles from his body? On the estate in question, it is anticipated that by increased attention to the housing, and keep of the working oxen, their efficiency will be materially promoted, and thereby a considerable reduction in the number necessary, may be effected.

By the new arrangements in relation to the former divisions of the estate, ten miles of fencing, with pine rails, will be spared, at an annual saving of more than $700.

Should this passing notice of the active and intelligent correspondent of the Register, serve to interest the readers of the Cabinet, I may probably recur again to some of his subsequent communications.

In the neighbourhood of Philadelphia, our farming establishments are on so small a scale, that I have partly concluded it might not be entirely a mal-appropriation of the Cabinet's pages, to occupy a little space, in showing how they do things in the "Old Dominion." Z. Y.

For the Farmers' Cabinet.

Butter.

I live in the good city of Philadelphia, and have been surprised as well as chagrined, at the small quantity of good firkin, or tub butter, that comes to this market in the winter. Every house-wife must nauseate the *grease*, that herself can hardly find it in her conscience to use, and which makes her husband turn up his nose at the table as if his good lady had been *eating snuff!* And yet this miserable stuff was almost exclusively, in our market last winter: it was, as every one knows, exceedingly difficult to procure a keg of *good* butter. And why should it be so? Can the boasted green fields of Pennsylvania, Jersey and Ohio, afford no nutriment, that the cow can prepare for *good* butter? Or is the fault in the management of the dairy? My *judgment* awards the fault to the *latter*, though my *choice* would give it to the former; for I have believed my countrywomen capable of doing *well*, anything they undertake. And why should the farmer be contented to lose so much in the price of his butter? It takes no more milk to make a pound of good, than of bad butter—and it requires no more horse flesh, or steam power, to bring a keg of the *real article* to market, than one that can barely be sold for cart grease! Last winter, good keg butter, when such a thing *happened* to be in the market, readily brought 22 cents, while thousands of kegs, would hardly find sale at 12! Now here is a difference of 10 cents per pound, which it seems to me, might just as well be put in the farmer's pocket, if his "better half" could be persuaded to study her "art." And what a deal of ill humour, we in this city of brotherly love, would be spared:—of all things I dislike to feel sour.

I once had a great aunt, of whom it might almost be said, she "knew to wield the sickle, scythe and plough;" and I have many times heard her say, that if butter is not well worked after it is taken from the churn, it is impossible that it should keep well. When the operation of the ladle ceases to bring out the buttermilk, it should be *properly* salted, and set away till next morning, when it should be again *thoroughly*—aye thoroughly—thoroughly worked with the pressure of the ladle, till no milk is to be seen. Now, Mr. Editor, you need not smile that I, who know so much more about *using*, than

making butter, should undertake to advise! but indeed its a *grave* subject.

A writer in the Central New York Farmer, gives the following directions, which may possibly be of some use.

"In packing butter, the firkin should be seasoned for at least a week previous to using it, by filling it frequently with buttermilk, and afterwards properly cleansed and scalded. The butter should be put down as soon as the second working is finished, while it is yet soft and pliable, pressing it together in such a manner as to leave no vacancies between the churnings. If the butter is intended to be kept for any length of time, the following treatment will answer the double purpose of excluding the air, and supplying the proper pickle, which are both neces-ary. Cover the butter neatly with a linen cloth, over which lay a quantity of fine salt, and add half a pint or so of clear water—repeat either or both when necessary, and set it in a cool, dry cellar."

I want some of your readers, who are competent, to take hold of this subject and treat it as it deserves. If this shall draw something from those who are qualified to direct in the premises, the end will be answered of

SARAH F.

For the Farmers' Cabinet.

Smut in Wheat.—Durham Cattle.

"AN old fashioned farmer of some experience, far advanced in years," and who dates from "Roxburgh, in Scotland," in a letter to the "Cultivator," says, "it should be borne in mind that smut is a very infectious disease; and wheat seed, even after it is pickled, should not be spread out to dry upon a floor, upon which smutted wheat had previously been threshed. Neither should it be put into smut tainted sacks, for the purpose of carrying to the field."

He says he has "several times tried the experiment of inoculating seed-wheat with smut, after the seed had been pickled, limed, and dried for sowing, by taking a sample of it in his hand, and rubbing it with the powder of smut balls, then sowing it apart from the other. The result was, in every instance, smut in the produce of the inoculated samples, and none in the produce of the bulk from which they were taken. Smut is also sometimes taken to the field in unfermented dung, made from the straw of smutted wheat, of the former year's growth."

The same writer further says, "Some of your correspondents affirm, that cows of the improved *Durham* breed, here called 'high bred,' or 'well bred,' are great milkers. They are not so esteemed in this country. There, no doubt, are exceptions to the general rule. We consider the superior excellence of high bred Durhams, to rest upon their *fine shape*, *great size*, *early maturity*, and *aptitude to fatten*. In these points, there is no other known breed equal to them. It is too much to claim for them also, the palm in milking. Their character stands justly high, independent of that desirable qualification. But I must say, I think the *quality* of beef of the Hereford breed, is superior to the Durhams; and the beef of the polled Galloway Scots, superior to either, as is proved by the London market, where Galloways sell from a halfpenny, to a penny per pound, higher than any other breed.

Cows of the old Yorkshire breed of short horns, are generally good milkers. They, as well as high bred Durhams, require rich pasture in summer, and to be well fed in winter. Crosses between well bred Durham bulls and coarse short horn cows, generally produce useful animals, and will go on for several generations without deteriorating. Crosses between cattle of distinctly different characters, is not commendable. They soon degenerate.

The Ayreshires are a diminutive variety of short horns. They are in great repute as milkers, and are fast spreading over these islands. They are in every sense, "the poor man's cow." They thrive and give a good portion of milk, upon *very short commons*, where larger breeds would starve.

LARD OIL.—This is a new item in the domestic manufactures of the West. At Cincinnati, there are now in operation three factories, which consume daily from twelve to twenty barrels of lard. The oil, it is stated in the Cincinnati Republican, has already attained a high degree of excellence and popularity, and is not only used extensively there, but it is shipped to the East every week: thus completely changing the course of the oil trade. It is used for machinery on the Little Miami rail-road, in all the city works, at the hospital and asylum, in several of the churches, and in numerous stores and dwellings. It is very obvious that this new manufacture will be of the greatest importance to Cincinnati, and to the West generally.—*From a Western paper.*

"IGNORANCE and apathy are no longer the characteristics of the guardians of the soil—the lamps of science shed their light over the once dreary waste, and in it the *statesman* sows the seeds of national independence and prosperity, and the philosopher finds food for the mind."

For the Farmers' Cabinet.

Profitable Hiring.

In these times of difficulty and embarrassment, when the farmer scarcely knows what to do with the surplus produce of his fields; when taxes are threatening to accumulate upon us, and the means of paying them are withering on every side; it is an important inquiry whether we have yet found the cheapest methods of cultivating our farms. The state of Pennsylvania is now nearly forty millions in debt. The interest of this sum constitutes a heavy draft on the resources of the commonwealth. If we can find a method of retrenching the expense to that amount, without diminishing the productions of our farms, we escape the disgrace of repudiation, and yet retain the enjoyments which our land has been accustomed to supply.

On most farms of any considerable extent, one or more hired men are usually employed. These men are commonly engaged to work against time. Their wages are not dependent upon the quantity of work performed, but upon the time employed in performing it. In hiring our agricultural labourers, we pay them for the physical force, rather than the intellect, which is supplied. We do not expect that they will devote much thought to their business. They are required to receive their directions from their employers, and to conform to those directions, whether they are judicious or not.

Now we must agree that the intellect is the better part, or, as our farmers would say, the larger half, of a man. A man who is employing his own powers for his own benefit, generally finds the contriving mind quite as efficient as the performing hand. And the hand itself will actually perform much more in a given time, when urged by an energetic mind, than when the intellect is languid or dormant.

It is no uncharitable charge on the labouring class, to repeat what has been often said, that the difference between working by the day, and working by the job, is strongly marked in the quantity performed. There are probably few of us who fully appreciate the energy infused into the limbs, by a mind stimulated by interest, to the execution of a maximum amount of labour. It would perhaps not be unsafe to assert, that a man thus stimulated can perform, without injury, an amount which would be fatal if extorted by compulsion.

Besides this, we may remember, that interest is Argus-eyed. The man who has a direct interest in the proceeds of his labour, can see many things which ought to be done, and which may be done at very little expense of time, which the mere hireling does not see, because he is not looking for them. Probably few men have had much to do with hirelings, without having occasion to wonder at the stupidity of men whose intellects perhaps were very little inferior to their own.

As the mind acquires strength and facility by exercise, in whatever way it is employed, it is evidently important that as large a part of the community as possible should be trained to such habits of thought and action, as tend to develope the resources of the country and to preserve from waste, whatever our fields and workshops are capable of producing. Hence it seems to be undeniable, that the earlier and more extensively the labouring class, the very bone and sinew of the community, can be engaged in a manner to feel that they have a direct interest in the results of their toil, the more prosperous and wealthy we may reasonably expect to become.

The practical result to which this reasoning leads, would be an effort on the part of proprietors, whether of farms or workshops, and particularly of farms, to regulate their business in such manner that the operators should have a direct interest in the produce of their labour; and thus become the manufacturers of their own fortunes.

Having sufficiently indicated the principles, I shall leave the details to the sagacity of my readers.

A Pennsylvania Farmer.

For the Farmers' Cabinet.

The One-horse Subsoil Plough.

Sir,—I am an advocate for the use of the subsoil plough, but believe, as a correspondent in your last number expresses, that the system is destined to receive, through the mismanagement of its friends, a woful discomfiture. How is it, Mr. Editor, that so many of us still believe that a *saving of expense*, is of itself a *gain?* It is, generally speaking, a *loss* in the hands of a judicious cultivator—the man who is not afraid to trust the management of his capital to his land: and in no instance will the error be more prematurely developed, than in the highly important operation of subsoiling—the inquiry after a one-horse subsoil plough, being quite decisive on that point. I know not how it is, that even sensible men are so easily led astray by such fallacies; it was but the other day that a first-rate cultivator of the soil inquired, while I was describing the "modus operandi" of the improvement, and detailing its advantages to soils such as his, which are rather thin and wet, whether it would not be found an expensive business,

it being literally, a double ploughing! To which I could but reply, "yes, but the crops will pay all that," and again enjoined upon him the maxim, "I care not what I give for an article, the only question is, what can I sell it for?"

To the European cultivator it will sound strange, to be told that we grudge the use of a pair of horses only, in the stirring of the subsoil! To be able to do it with so small a force, will be cause of wonder to them, and speak volumes for the soil and climate of our country; but the wish to obtain any good from the use of a *single-horse* plough, will appear to those who do not expect to accomplish the end with less than four, and often with six, or even eight, the height of folly, and a saving at the wrong end. And although it is readily admitted, that more improvement has taken place within a few years past, in the formation of our ploughs, than in any other implement; yet there is a point beyond which, *alteration* ceases to be *improvement;* and it is generally believed we have overstepped that point in the introduction of the subsoil plough for almost every kind of work—just as it is at length discovered, that the heavier, in reason, the construction of machinery, the steadier, and therefore the easier it will be found to work. To be sure, we are amused when we read the accounts of the great number of horses and oxen that it was thought necessary to attach to their ploughs in former days, and are, with some justification, inclined to ask in these cases, whether the operation must not have been "expensive;" indeed wondering how any crop could be made to pay it; and yet it has been found to pay, in a country, too, where the charge upon the agriculturist in the shape of duties, taxes, poor-rates and tithes, in addition to high rents, would be considered, in this country, absolutely insupportable. I copy from an old but very interesting work on husbandry the following observations, for the amusement of your readers; remarking, however, after all, there might not be so great a distance between this system, and that which is about to be introduced amongst us in the shape of a *one-horse subsoil plough*, if it be true that "extremes meet."

"My carter says, in ploughing stiff land it is cheaper to use six horses in the plough than four, and a farmer standing by, said the same thing. I summer-fallowed for barley, and used but four horses, but the land being dry and hard they made but slow riddance, the ploughman being obliged to *wriggle* the plough to help the horses, whereas six horses would have gone through *thick and thin;* so note, for the future I use six horses. An advantage of ploughing with oxen is, that you may summer-fallow the strongest lands in the driest seasons (their chains being strong,) by making a plough of *ten* oxen and adding an extra ploughman the more, to hold down the plough; whereas, if at such a time you make a plough of *eight* horses, they will not carry so true a furrow, and will break their harness."

Now this account must appear very amusing to your readers, yet not more so, than the breaking up a subsoil with a single horse, will astonish the natives of those countries, where, to use *four* horses only, is to give the ploughman the task to "wriggle the plough to help the team!" JOHN MEAD.

June 28, 1842.

To the Editor of the Farmers' Cabinet.

Agricultural Societies.

SIR,—Among the many useful purposes to which agricultural societies may serve as the most efficient means, is that of effecting an interchange of seed, so that the best seed from the best quarters may always be at the command of the agriculturist. That the seed of most cultivated plants degenerates if sown for a series of years in the same soil, is well known. Some ten years ago, a farmer in Chester county, of my acquaintance, received a bag of Genesee wheat. It was sown, and the product preserved for seed. For several successive years the crop was abundant and superior in quality. It afterwards degenerated, probably became mixed, and lost its superiority. It is unnecessary to adduce facts or arguments to prove the advantages of a cha ge of seed. Farmers are in the habit of seeking change, but they seldom go out of their own neighbourhood. It is proposed, through the agency of agricultural societies, to extend these advantages. The crops of rye for ten years past have failed in this country; perhaps had good seed been imported and substituted for the miserable sample raised at home, this evil had long ago been avoided.

Will the corresponding secretaries of the various societies take up the subject? And will you, Mr. Editor, favour us with a list of the various societies within your knowledge, with their secretaries, as far as you may learn them? S.

THERE are in the world a set of men who know enough already, and cannot recollect the time when they did not: such men will never know anything as they ought to know it. I would as soon undertake to bale out the ocean with a clam-shell, as to attempt the improvement of such men.—*Bates.*

For the Farmers' Cabinet.

On Ploughing Corn.

I HAVE before me twelve acres of corn, the whole cleaning of which has been confined to a single ploughing with the Prouty plough, one furrow being turned *from* the rows into the space, where it has lain, in the hope of a seasonable working with the cultivator; but alas, that chance has never been afforded, the incessantly wet weather preventing it, until the corn had reached a height which entirely precluded it,—what will be the consequence! To be sure, there are weeds amongst it, but not so many as I had expected; the ploughing *from* the rows being also about as bad an arrangement as could have been devised; the returning of them *to* the rows having been found impossible in proper season. The crop must therefore go on its own hook; and although I sincerely regret the very miserable way in which I have been compelled to neglect it, yet I assure you it is very fine, tall and stout as any that I have ever grown, and is splendidly tasseled; a far better crop than that in the adjoining field belonging to my indefatigable neighbour Clifton, whom I often saw cultivating it when the earth was full of water, and when the furrows turned over like mortar. As I had been prevented from putting my intentions into practice—which were, merely to throw a furrow from each row into the interval, there to lie for a season, and then to return them to the rows as a last tending, (believing that I had sometimes been guilty of over-working my corn, to its injury)—I must now await the result of an extreme case of the paucity of management, which I by no means approve, although present appearances are not discouraging.

But I ought to say my land—a two years' old lay—was broken up very deep and carefully last autumn; and early in the spring it was cross-ploughed to the full depth, the sward turning up perfectly decomposed and the whole harrowing finely; and to this management I owe freedom from cut-worm in the spring, and the comparative clean state of the land, as also its lightness; for if it had not been ploughed until the time of sowing, it must have been worked in wet weather, as my neighbour's was. I hope another year to improve upon this hint afforded me by "stern necessity." P. J.

Berks County, July 29, 1842.

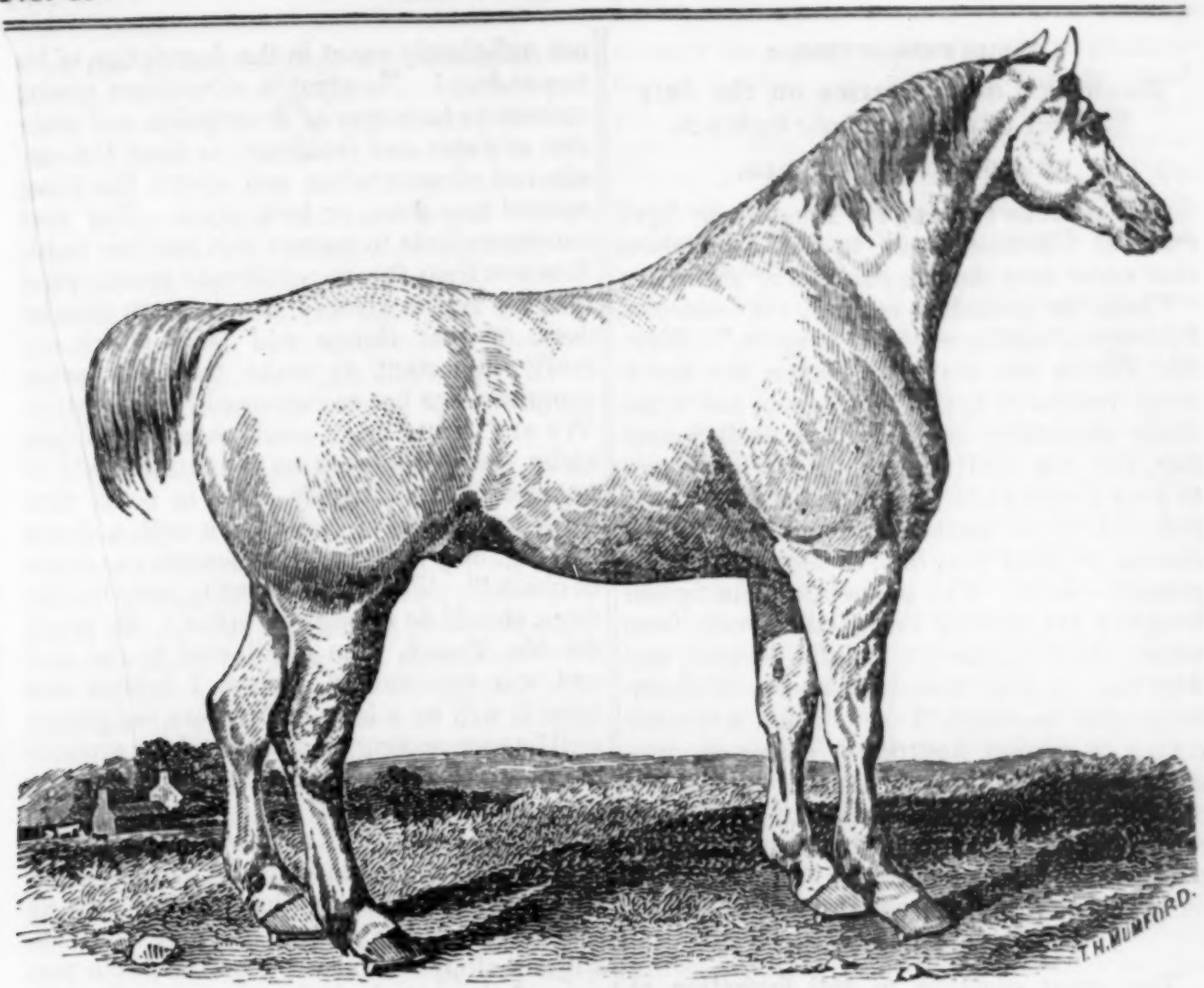
HENCEFORWARD, the prospects of agriculture are the prospects of science; and its future progress will be the progress of universal knowledge!

Subsoiling, Draining, and Irrigation in England.

THE advantageous effects of draining upon wet soils, must be just as great as the injurious effects of too much water; while the good effects of irrigation and warping—both, merely systems of applying weak liquid manure in large quantities—and of the subsoil plough, as an instrument by which the water is permitted to diffuse itself more generally through, and the atmosphere to act upon the tenacious subsoil, so as to make a change, as it were, in the general character of the component parts of the soil, may be philosophically demonstrated; but this is unnecessary, for we have the proof positive in millions of acres before our eyes. Thus the fens of Lincolnshire, Huntingdon, and Cambridgeshire, which 50 years ago were stagnant marshes, are now luxuriant pastures. 200,000 acres of the Lincolnshire fens have thus been reclaimed, and in other counties many thousands more, while 25,000 acres of the single fen of Deeping are drained by two steam-engines of 60 and 80 horse power. Chat Moss, a yawning morass in 1820, is now a golden grain-field with incipient villas; while the several statements of Messrs. Denison, Craft, Graham, &c., exhibit a change from sterility to fertility, and afford practical evidence of the value of the permanent improvements produced by draining, warping, irrigation and subsoil ploughing, which are really illustrations of what these operations are doing for all; the general results being, that wheat in these counties is no longer a luxury confined to the rich—it is now the staff of the poor man's strength—the quaking morass and the arid moor, now wave with the golden grain, and the acre which once gave back only four times the seed, now returns from eight to ten-fold. Instead, too, of winter being the season of starvation to cattle—when *existence* was all that could be hoped for—it is now essentially the season for fat and plenty; for if the turnip cultivation has given to the grazier the power of increasing the *quantity*, the skill of the breeder has equally increased the *quality* of his stock, and this is seen in the weight of cattle and sheep exhibited at Smithfield market, at three different periods, viz.

1810, average weight of cattle, 26 st. 6 lbs.—sheep and lambs, 2 st. each.
1830, average weight of cattle, 39 st. 4 lbs.—sheep and lambs, 3 st. 8 lbs.
1840, average weight of cattle, 46 st. 12 lbs.—sheep and lambs, 6 st. 6 lbs.

Such, then, is a brief glance at the progress of this branch of agriculture.—*Hannum.*



DRAUGHT HORSE;

The property of Messrs. Hovey, Edinburgh; painted by Landseer; engraved by Mumford, from "The Book of the Farm."

EDEN-HILL FARM INSTITUTE,

On the river Delaware, twelve miles above Philadelphia, eight miles from Bristol.

THE Editor of the *Farmers' Cabinet*, takes the opportunity of stating to its numerous readers and his personal friends, that being relieved in a considerable degree from the details of the office, by an arrangement with its present proprietor, he is enabled to realize his long cherished desire, to practise the art of agriculture in this, "the land of his adoption." To this end, he has connected himself with JOSEPH COWPERTHWAIT, Esq., upon whose farm, in every respect adapted to the purpose, he proposes to establish an Institution, for the reception and instruction of young men in the principles and practice of Agriculture and Horticulture. He will occupy the elegant mansion, now in the tenure of P. L. Laguerenne, Esq., which, for healthfulness and beauty of situation, cannot be surpassed; and it will be the study of himself and family to tender to their young friends the conveniences and comforts of a HOME.

The exercises of the Institution will embrace the practice of Agriculture in all its various branches and details—the cultivation of the best crops, and the rearing of the choicest live-stock—the best animals having been selected, and the most approved implements obtained. The management of the plough will form a leading feature in the course of instruction—sub-soiling will be adopted on a regular scale, as well as a system of draining, the formation and application of composts, &c. Horticulture will occupy a large share of attention, the students having the advantage of studying and practising this branch—the care of the flower garden, greenhouse, and culture of the vine, under a professed gardener, having the charge of a range of houses, with an enclosed garden, of more than two acres in extent.

The estate is bounded on the west by the Bristol turnpike; on which, and within its borders, is situated the Episcopal church of "All Saints," with several other places of worship in the vicinity. The Trenton and New York rail-road passes through the centre of the farm; while the river Delaware, its easternmost boundary, affords repeated daily access by steam-boats—a boat in regular attendance at Risdon's ferry, landing passengers within a few yards of the line.

A limited number of students only can be accommodated; and as it is the wish of the subscriber to commence operations early in the autumn—the commencement of the agricultural year—he would be happy to receive early applications from those parents and guardians who may honour him with their confidence.

JAMES PEDDER, *Office Farmers' Cabinet, No. 50, N. Fourth Street.*

☞ References will be given and required.

Philadelphia, July 29th, 1842.

For the Farmers' Cabinet.

Running Commentaries on the July Number of the Farmers' Cabinet.

BY A DESULTORY READER.

1. Charles Squarey's Treatise on Agricultural Chemistry—as to *the Substances that enter into the composition of Plants.*—"These he considers as four, viz.—*carbon, hydrogen, nitrogen,* and *oxygen.*" Now, Mr. Editor, you may dwell upon the auspicious results of applying science, and especially chemistry, to agriculture, until doomsday, but you will never do *general service* to your readers until the terms employed are reduced, by no matter how much circumlocution, *to plain English*, if such a thing be possible—is it? The moment a plain farmer who has not studied Latin and Greek, from which those terms are chiefly derived, and who has not gone through a course of chemistry—the moment, I say, such a reader comes to *carbon, hydrogen, nitrogen, oxygen, soda, silex,* and *ammonia,* with many others equally Greek—to men of plain, common, English education—that moment such a farmer or plain reader will "skip," and go on to the *next article*, which is

THE COMPOST-YARD.

The great obstacle to the formation of compost-heaps in this country, as it is to almost all other agricultural improvements, is *the scarcity and dearness of labour;*—nevertheless, collections of large quantities of compost is practised to greater extent and more systematically, in Talbot county, Maryland, and especially, be it observed, among gentlemen who there compose a society for agricultural *converzationes*, than any where else that I know of, in a slave-holding state among large landholders. Some of these gentlemen contrive to collect and haul out 3,000 loads in a year. If one of them would write a plain description, the *time, the how, and the where and the with what*, it is done, he would render a service which would entitle him to the thanks of his brother farmers. In the meantime I pass to the next article, on

FIELD-MICE.

This communication is interesting, because it discloses, in the writer, a habit of reading, the love of which is the most pregnant and cheapest source of happiness that education can throw in the way of any mortal man, and especially a *country*-man; but there are in this communication, signed John Taney, two very common defects:

1. He does not give his *locality*, which ought always to be done, for reasons of utility, too obvious to be mentioned. 2. He is not sufficiently exact in the description of his mouse-trap! No error is so common among writers as *looseness of description* and omission of *dates and localities*, to show the season and climate when and where, the thing related was done, or took place. Beg your correspondents to correct this careless habit. It arises from the inconsiderate presumption that the reader already knows more than he does, or that things and facts which are really important to make the information complete, are not so esteemed by the writer. We are told to use a *small quantity* of this, and a *few of that*—or, as the witness said in an assault and battery case, in court, that Tom had knocked down Dick with a stone, "as big, may it please your honour, as a piece of chalk!" The small quantity, and the few days, should *be always specified!* So much for Mr. Taney, who I followed to the end and was entertained, though I believe and hope it will be a long time before our people will be seen setting traps for catching ground-mice—as to *moles*, is it settled, that they do more harm than good?

Now, in regard to Renovation—the *heading* of a paper should be made more descriptive of its *contents*—so that if these have no attraction for the reader, he may pass on, without stopping to read a considerable portion of the article before he can discover what this "renovation" means. A brief synopsis of the contents, in the heading of essays, is convenient and useful. In reference to the cultivation of the *vine*, the first reflection which strikes the reader, is the *disgrace* which attaches to ninety-nine out of a hundred farmers—that they are too *inert* to provide such a cheap and wholesome luxury as a bunch of grapes, for their family, or friends, when they visit them: but as to the fertility of a vineyard being kept up entirely by *burying its own cuttings*, I have my doubts. Could a cow live alone by sucking herself? even though she took all her own milk? Whereas in the case of the grape-vine, we take, in the grapes, the cream of the produce—doubtless more of the nourishment absorbed by the vine as to maturing the grape, than to the formation of the cuttings. However, the hints are important, especially the remarks of "Another Poor Man," quoted by a Vine-Dresser—who, again, omits *his locality*, though in this case the whereabouts is not so important. But as a general rule, the place where a thing is written, especially where practices and results are detailed, should always be given. The next article is headed

Magnify Your Calling.

A better heading would have been—Your Calling, *let it be duly estimated!* There

is no use in *magnifying* the calling of the husbandman, if it be properly understood and justly appreciated. The reflections here extracted, page 365, from Chowles' oration, are excellent. There is no calling comparable with it, for health and intellectual enjoyment, if, with the practice of agriculture, you can only combine *a fondness for books*. See SKINNER's essay on that subject, published, I believe, in the American Farmer, and in the National Intelligencer. Then comes an important little, labour-saving scrap, teaching how

TO PREVENT WEEDS FROM GROWING IN A NURSERY,

By covering the ground between the rows with *spent tanner's bark*. I have long believed that farmers on tide-water might save much labour and gather as good crops, by covering their gardens and root crops with sea-ore, and what is called *hog-grass*, to be gathered in great quantities in the spring. It would keep the ground *moist*, and keep down grass and weeds. I wish some tide-water farmer, near St. Michaels, an important port of entry and place of ship building, on that great estuary of the Chesapeake, St. Michael's river, would make the experiment on a row of beets, or potatoes, or cabbages, and report the result. The next is rather a greasy subject—one that I would have passed by, had it *not* been for the remarks of *the Editor*, whose notes infallibly catch my eye, and are *always* found worthy of especial attention. On the strength of his recommendation, I will try

LARD-OIL.

The next communication is on "MEDICATED TAR." I should have read it, but seeing the word "*oxygen*," the English of which I could never remember five minutes, I go on to *Cranberries*; but as I would as soon think of eating green *black*berries which are *red* when they are *green*, and as all such very sour things require more sugar to make them palatable than they are worth, proceed to

AUTUMNAL PLOUGHING FOR OATS.

This would be passed over, for want of *date and place*, were it not for its intrinsic importance. The extract, however, given by "JOHN DALEY'S" correspondent, from a work on husbandry, is evidently from a *British* work; and who, that has not been in England, knows how to make the appropriate allowance for difference of climate? Reasoning that applies to British agriculture in a great variety of cases, is very often *wholly inapplicable* to our country, for various reasons, and most especially on account of difference in the cost of *labour*, and *climate*. Fall ploughing may be commendable in one country for a given purpose, and condemnable in another. In England, turnips stand out in the field, and sheep are folded and pastured upon them through the winter—hence the great saving of labour, and the immense results attending *sheep and turnip husbandry* in England, that cannot be realized in America.

As to *oat culture*, I believe in *early sowing*, and in much thicker sowing than we practice in this country for all grains and grasses. True, the higher manuring in England renders thick sowing there more eligible than here, yet we generally sow too little to the acre. The heaviness of the straw and its capacity to make stronger manure, and the weight and value of the grain, are increased, not by being cut earlier in the season, but earlier in reference to its stage of perfect maturity. The extract from the English work on husbandry, speaks of *covering the oats by* FIVE *harrowings*. Here, again, you see the difference in the price of labour, and may judge how much more perfect must be the tillage where the farmer can stop to plough up his oat ground in autumn, and then cover them by *five* harrowings in the spring! In England two acres of wheat will cost, for mowing 55 cents, binding 44 cents, lifting 33, and raking 22 cents, say $1.54 for two acres, or say 77 cents an acre, and these acres probably average 30 bushels—how does that compare with American yield and expense?

The next paragraph ought to be printed in large letters and hung up in every farmer's house—*right side up*. It runs thus: I copy it for the sake of impressing it more indelibly on my own mind, though I have been preaching it for 25 years, which is nearly half my life-time.

"ONE OF THE CHIEF ERRORS OF OUR HUSBANDRY IS CULTIVATING TOO MUCH LAND; BECAUSE IT IS ONLY HALF DONE. HALF THE QUANTITY, WITH DOUBLE THE WORK ON IT, WOULD INSURE DOUBLE CROPS, WHICH WOULD BE FOUND MORE PROFITABLE." This may not be true to the letter, but the principle is good.

The next paragraph runs—"We should be sorry to have *everybody agree with us, or ourselves agree with everybody else*: this would be dull work, and put an effectual stop to all inquiry, consequently to all intellectual progress." This is very true, and argumentation is very agreeable, especially when a man feels as it progresses, that *he has got the best of it*—that is, when his antagonist is the better informed of the two, and therefore he perceives that the account of loss and gain runs all in his own favour. But how, when you meet, as we sometimes do, with self-

sufficient fools who think they have nothing to learn, and therefore deal in dogmas and maintain vehemently that *so it is—because it is so!* With such wiseacres I make it a point never to "argufy and 'spute a point!" If they say it's a whale, I say it's very like a whale. So with some men who happen to have a big bull or a fat hog; they say no other breed is fit for anything, and I say, yes—it's a cloud, or it's smoke—just as you please.

Next stands before us The Kerry Cow. Be not cow'd, reader, at the fear of encountering here a dissertation on a new breed of cows. We have already the *short* horn Durham, the *long* horn Irish, the *middling* horn Devon, and the *no horn* muley cow, to dispute about and choose from. By the bye, there is perhaps no community whose diet is more *lactiferous* than is that of the good people of Washington. The vast commons belonging to the corporation and to Uncle Sam, are divided into 6 or 8 ranges, pastured by from 70 to 100 cows each. The same lot of cows graze every day in their own pasture. It's curious to see these herds of 100 cows come slowly concentrating upon the city from their various ranges in the afternoon—"the lowing herd winds slowly o'er the lee"—with always the same leaders in the van. Mem,—Those who keep cows begin to learn that the best way is to look out for the small, thrifty, ill-fed cow, from the lower counties—or, as they class them all, "St. Mary's county"—rather than buy a large, fat, high-fed Lancaster or Loudon-county cow, that soon falls off here, on our short commons and shorter appropriations! In buying a cow for his own use, a poor man should always seek to get one that has been not quite so well kept as he can keep her, and then she improves instead of *falling off!*

The next three articles do not suggest, or will not admit of, comment or abbreviation. They are headed Agricultural Chemistry, from Leibig—Germination of Seeds—and Shoeing Horses, by J. S. All these articles are good. J. S. might have added about shoeing, in the way of advice, that every owner of a horse should stand by and see his horse shod the *first time* at least, if it be only in kindness, to see that the fright which is natural to a young horse under such an operation, is not followed by violence and harsh treatment from the smith—which will ever after make him apprehensive, and difficult to be shod.

Having no time, even if there be room, for comment on the remainder of your last number, I remain, Mr. Editor, your friend and obedient servant, S. S. I.

Washington, July 20, 1842.

Influence of Water upon Nutrition.

Water influences vegetation not only by the nutritive principles furnished to plants by its decomposition, but by means wholly physical, and which we shall first consider.

The first effect of water upon a soil appropriated to vegetation is, to moisten and divide the earth, and consequently to favour the extension of roots, the introduction of air, and the developement of seeds.

The second is that of conveying to the seed the first aliment required by it, oxygen, which that liquid always holds in solution, in a greater or less degree, and which is, as I have already observed, the principal agent in germination.

The third office performed by water is that of dividing the manure applied to the soil, of dissolving some portions of it, and conveying them to the organs of the plants in a state fitted for their digestion and nourishment.

All kinds of water are not equally suitable for this purpose; rain water, which is the purest, and contains the most air of any, is also the best for supplying the wants of plants. Generally speaking, those streams which have their rise in granite or primitive calcareous mountains, are favourable to vegetation; but it is necessary that they should flow through soils free from metallic salts or earths; and that they should have traversed, before being used in agriculture, a sufficient space to have become impregnated with a due portion of atmospheric air.

Streams may not be pure, and yet may be very serviceable for watering the soil, especially if they carry, or hold in solution, certain salts favourable to plants, and some vegetable or animal substances.

When plants have yielded to water all their soluble portions, the subsequent decomposition of their insoluble fibres furnishes new soluble products, which serve for nourishment; water imbibes these as fast as they are formed, and transmits them to the plants with which it comes in contact. In this manner dead plants supply food to the living, and all the elements composing the first are found differently combined in the last.—*Chaptal's Chemistry.*

There is an old saying, that "if children are fed upon roast beef, they will require a good deal of physic." The English of this is, that *simple diet*, and plenty of *exercise* in the open air, will be far more likely to lay a foundation for sound health, and a good constitution, than *high living* and *over-much carefulness.* And what, of outward blessings, is more desirable, or more intrinsically valuable, than "a sound mind, in a sound body?"

True Philosophy.

Let those that will, repine at fate,
And drop their heads with sorrow;
I laugh, when cares upon me wait—
I know they 'll leave to-morrow.
My purse is light, but what of that?
My heart is light to match it;
And if I tear my only coat,
I laugh the while I patch it.

I 've seen some elves, who called themselves
My friends in summer weather,
Blown far away in sorrow's day,
As winds would blow a feather.
I never grieved to see them go,
(The flatterers who would heed em?)
For what 's the use of having friends,
If false, when most you need 'em?

I 've seen some rich in worldly gear,
Eternally repining,
Their hearts a prey to every fear—
With gladness never shining.
I would not change my lightsome heart,
For all their gold and sorrow;
For that 's a thing that all their wealth
Can neither buy nor borrow.

And still, as sorrows come to me,
(As sorrow sometimes will come,)
I find the way to make them flee,
Is bidding them right welcome.
They cannot brook a cheerful look—
They 're *used* to sobs and sighing;
And he that meets them with a smile,
Is sure to set them flying.

Even. Jour.

For the Farmers' Cabinet.

Orchard Pruning.

Mr. Editor,—I have found that the business of pruning might be done early in the autumn with decided advantage, for it gives the wounds of the tree time to dry and harden before the frosts set in; and if the horizontal branches are permitted to remain, and those which have taken an upright direction be judiciously shortened, the bearing of the tree will be much encouraged and the shape of it improved. A few strong upright shoots have often been found to carry with them the strength and fruitfulness of the tree, and in the end to quite spoil its symmetry and proportions; they generally become naked and even devoid of foliage for the greater portion of their length, and are liable to be affected by every blighting wind that blows, particularly at the time of blossoming and at the period of the setting of the fruit; indeed it is seldom, comparatively, that such strong upright shoots are either useful or ornamental. The common method of pruning, namely, to induce the tree to cast its branches high and perpendicular, with the view to increase its fruitfulness by throwing the bearing wood into the sun and air, is certainly wrong, and so also is the custom of thinning out the branches inordinately, with the same object; there is a medium which it is necessary to observe, and I have long been convinced that more evil is done to an orchard by over-pruning, than allowing it to remain in its natural state. I could point to hundreds of trees which were once good bearers in the hands of a man who was proverbial for letting things take their course, but which are now, and have been for several past years quite barren, in consequence of the present proprietor being, what is called, fond of the knife, and who boasts that it has not cost him a cent for firing for so long a time, the pruning of his orchard having furnished the house with wood in the greatest abundance, and of which he can see no end.

Now, I am an enemy to this mode of wood-chopping, for I can see that it is ruinous in the extreme; it encourages the trees to send forth perpendicular and barren wood, and draws the substance of the tree towards the top, quite reversing the order of its nature. But there is as certainly a judicious mode of doing things, and I know of none that requires more the judgment and taste of a man, than that of *pruning*, simple as that operation appears to those who are least acquainted with the *science*, which requires study as well as practice. If persons would be content to perform the operation partially, and by degrees remove the large branches of a tree which has long been neglected, they would not see so commonly, that the head of it has shot up into one mass of *fire-wood*, quite without the possibility of affording even space for bearing, the blossoms of which, if ever they attempt to make their appearance, being weak and of an unhealthy appearance and shape. This mode of pruning is alone sufficient to throw a tree *out* of bearing; and although it might be said to create new wood, it is of a kind that will produce no fruit; generally speaking, it is the horizontal branch of a tree which is the bearing wood, and that which ought to be preserved; one of these often producing more fruit than half a hundred of those which shoot perpendicularly. On cutting off the limb of a tree, there is always an escape of a portion of the juice—this in time becomes putrid, and in this will insects deposit their eggs—or, as many believe, this exuded putrid juice will, of itself, produce them: it is, therefore, highly proper to have ready-prepared a quantity of the medicated tar mentioned in your last number, with which to anoint the wounds made at the time of pruning; this will be found to dry up the juice and stop the bleeding, as also to protect the wound from the attacks of the insect tribe.

Malum.

July 19, 1842.

Root Pruning.—The last Magazine of Horticulture has a valuable article upon the root pruning of trees, by which they are made more prolific and kept in a smaller compass than if suffered to grow naturally.

For the Farmers' Cabinet.

The Pumpkin-rumped Cattle.

Mr. Editor,—I find in the recently published volume of the New York State Agricultural Transactions, a very particular and well-defined description of this breed of cattle, which I believe has deceived many of us into an admiration for them which they by no means deserve; and as I conceive there are still those amongst us who would be benefited by the diffusion of a little more knowledge on the subject, I have transcribed from the Report of the Committee on Animals for Tompkins County Agricultural Society, the well-written account which follows, and which I present for publication in the Cabinet.

"In speaking of the Durhams, your committee have no reference to a breed of cattle often called by that name, but whose characteristics are essentially different, and which, by assuming the name, have injured the reputation of the genuine Durhams over various sections of country. We allude to a variety of Yorkshire cattle, readily distinguished by the peculiar conformation of the hind quarter, which is not dissimilar to the hog in a high state of fatness. Hence they are designated in some portions of the country as 'hog-ham'd,' 'pumpkin-rumped,' and by other appellations descriptive of their peculiar form. From the hip to the point of the rump, they are short, like the hog; and from the root of the tail to the bottom of the fleshy part of the thighs, the buttock projects outwards, describing more or less completely the segment of a circle, instead of the nearly perpendicular line which distinguishes the true Durham. Marshall, an English author of high authority, calls them 'the cloddy-buttocked Yorkshires,' and speaks of them as one of the worst breeds known in England. Usually of a deep red colour, not destitute, too, of a certain general smoothness and symmetry; growing with great rapidity and thriftiness when young, and attaining a large size, it is by no means singular that they should attract notice and admiration, where their properties are unknown; and possessing such qualities, it may, perhaps, be asked, what are the counter-balancing disadvantages which should lead to their condemnation, and which at this time calls out this so direct and explicit censure from your committee? The very size, apparent thriftiness and showy qualities of this breed, form reasons which have influenced your committee in this course; and from the fact, that such outside qualities are well calculated to deceive the inexperienced. And it is well-known they have so deceived the stock growers in many sections of our state; not only occasioning actual loss—for we deem them entirely inferior to our native breed of cattle—but they have retarded improvements, discouraged others' efforts, and not unfrequently led to an entire scepticism on the part of the farmer, as to the feasibility of any improvement in our breeds of cattle. Their bad qualities may be summed up as follows, viz.—1. Cows often perish in giving birth to their calves, the great size of the rump in the fœtus rendering it impossible to pass the bones of the pelvis. 2. Although always fleshy, they are never fat; the beef never handsomely mottled with fat and lean; and they are proverbially poor provers, or in other words, they do not tallow well. 3. Their meat, when killed at any age, has a dark or blue tinge, which renders it far less valuable or marketable. 4. They are decidedly an inferior race of milkers."

On reading the above description, I was tempted to turn to the portrait of the Durham bull "Patriot," page 345 of the 5th vol. of the Cabinet, and almost fancied that I could detect in his remarkably round and full buttock, a little too much of the fault here pointed out; but I suppose I must be wrong, for we are there informed that he sold for five hundred guineas, which to be sure was a sum of money sufficient to cover a very large "sin." I wish, however, that some of our "thorough-bred" friends would please inform us if, at this time of day, such a buttock would not be considered rather large than otherwise; at all events, it will not admit of the description given of the improved Durhams in the above report, namely, the *nearly perpendicular line* which in them forms their distinction, and which I could but particularly remark to be the case in these two peculiarly fine bulls—so very much alike, too—"His Grace," and "Prince of Wales," which were exhibited at the Philadelphia Agricultural Show, at the Rising Sun, the last year, and which, as they so richly deserved, won golden opinions. In conclusion, may I be permitted to ask, if I am at liberty to consider these two bulls "the best in the United States" at the present day?—or if not, would one of the many, whom I am willing to admit are likely to know more than one, who is by no means conversant with the "niceties of judgment" of which he hears—namely, "that it takes a full hour thoroughly to examine an animal, beginning with the inside of the eye and nose," be pleased to point out their imperfections.

W. O.

"Celerity is never more admired, than by the negligent."

For the Farmers' Cabinet.

Horse-Rake for Grain.

As it should be the duty of farmers to make known to each other the improvements they discover for mutual benefit, I am willing to suggest one which I have tried for some years past, and it has proved to me, in the busy season of harvest, much saving of time and expense in gathering my wheat and oats, which I cradle. Having a common hay-rake, the teeth of which were rather dull, to run as easily as I could wish into the hay before it had dried considerably, I thought to get one with the teeth iron-pointed, and did so; and the old one I spliced, and made it so much longer, as to add two more teeth at each end. I have ever since used it for raking up my wheat and oats, in the same way we do hay, by letting the horse walk between two rows of swarths; and I think I can rake, in this way, two rows at a time, as fast as six men can bind. In general, I rake morning and evening, and not when the sun is most powerful on the grain in the middle of the day, lest it should shell it out; and I thereby save more grain as well as labour, than when I used to rake with the hand-rake. To rake good, the swarths should be very long, to prevent frequent turning of the horse over the ends.

ANDREW C. RIDGWAY.

Upper Freehold, Monmouth Co., N. J.,
7th mo. 6, 1842.

Thorough Tending of Corn.

WE extract from the communications of an intelligent correspondent of the Marlborough Gazette, and a firm friend of the Cabinet, a very interesting account of the effects of a destructive *fresh*, which took place in that part of the country on the 14th day of July last; for the purpose of introducing his rational reflections on the proper times and seasons for the cultivation of the "king of grain-bearing plants." To us they appear to go far to answer the question, "How is it, it so often happens that corn, which has, by some means escaped its last workings, turns out a better crop than that which has been tended to the end?" We invite the attention of our practical friends to the subject, as the present season will afford innumerable instances of partial tillage, the extremely wet summer having rendered thorough working absolutely impossible.—ED.

A current of this tremendous fresh had crossed the road and washed up some stalks of corn, leaving the roots more perfectly bare and clean than could be done by the most careful manipulation. There they were, stretched along the course of the ravine, on the surface; the force of the current, after the earth had all been nicely washed away, having collected the threads and spread them together like a tangled hank of white-brown thread. It struck me in an instant that I had never seen, and might never again see, so good a *specimen* to exemplify the extent and process of the *growth of the roots* of this king of grain-bearing plants. So I leaped from my horse, plucked a few of the roots close from the foot of the stalk, wound them into a large ball, put it into my pocket, and I wish you could see it, as it hangs now before me, suspended from a nail at the top, and falling below the bottom, of a "twelve-light" window over my table—looking much like what a gentleman guessed it was, a large '*bunch of sea-grass*,' measuring *fully four feet in length!*

I shall send it to be preserved in the botanico-agricultural department of the *National Institute;* an establishment, by the bye, which all American husbandmen should cherish, as it is so admirably fitted, by its collections and researches, to gather uncommon and valuable seeds and plants, and advance in every way the science and profits of agriculture. This bunch of roots, spreading as already stated, from a single stalk, in all directions around to the extent of more than four feet, before it was washed up, and permeating, as it were, every inch of ground, suggests interesting hints and reflections on the growth and culture of that noble plant. Pray, will you invite some more practical, and otherwise better qualified correspondent, to take up these *threads* and follow them to useful conclusions, as to the proper times and depths of hoeing and ploughing and manuring in reference to the propensity of this greedy plant, as here established, to open a hungry mouth, in every minute sub-division of the soil, where a particle of nutriment can be found?

The corn in this case was probably planted about the 20th of May;—it was very good, without being very extraordinary. These facts, among others, are established by this specimen: that up to the 15th of July—say in two months—the growth of the roots in length much exceeded the stalk—that is, the solid portion of it;—that from each main root thousands of fibres branch off in search of food, and that it would not now, though the crop has not been "laid by," be practicable to plough, even one furrow through the middle of the row to the depth of eight or ten inches, without severing some of the main roots, with their innumerable fibres, searching subsistence in all directions, and forming a closely matted web-work. Here, as to the effect of occasional and of partial severance of the roots, can it be, under any circumstances, beneficial? and do its effects depend chiefly or entirely on the weather—or does not the fact, that these roots are lying near

to, or below the surface, in reference to the presence of their appropriate food, and in proportion to the depth of the tilth, admonish us that the earth, or pasture in which the plant is to graze, should be made soft and penetrable, in proportion to the quantity of sustenance to be found, and that the food being thus made accessible at planting time, or before, to the messengers which are to be sent after it, these messengers, or roots, should be left quietly to do their office, without being disturbed or in any manner crossed or interrupted, after planting time: stirring only the surface lightly after that, to let in air and moisture and such aliment as they may of themselves afford; and by their agency, render more soluble the food which the pasture contains, thus converting it more easily and completely to the sustenance of the plant? Let every one, Mr. Editor, draw his own conclusions, but let him not selfishly ***hide his light under a bushel!*** that's neither liberal nor fair. S. S. I.

Washington, D. C., July 15, 1842.

Results of Garden Culture.

Profitable Farming.—George Pierce, of West Cambridge, Mass., about six miles from Boston, has a home lot of little more than 7 acres, which he cultivates in the same favoured district of which I have been speaking.

Besides this, he sometimes extends his cultivation by hiring occasionally small lots in the neighbourhood.

The extent of his out-lots is not given; but it may be inferred from the fact, that for one of them he pays an annual rent of $35; for the other piece $40.

The amount of sales from the whole three within the year thus far, is $3,428.64.

The amount of sales from this home lot of 7 acres, is $2,779.54. The amount paid for labour on the whole up to this date (27th Nov. 1841,) is $499.99, without including the expense of the board of the men.

This, I presume, does not embrace any charge for his own labour and supervision and marketing. The bills paid since the last spring for manure amounted to nearly twice that sum.

His particular aim is to raise fruit and vegetables for the market, such as apples, peaches, strawberries, raspberries, and lettuce, radishes, spinach and other greens, early cabbage, cucumbers, squashes, melons of various kinds, cauliflower, brocoli, beets, carrots, turnips, peas, beans, onions, &c., all of which are profitable crops, when he is successful in growing them.

He plants little corn and potatoes, as he thinks he can use the ground to much better advantage. Some of his most productive crops the present season have been fall-sowed onions, from a piece of land three rods in width, and eight rods in length, which gave him $167. Another profitable crop was saba, or, as they are sometimes called, seve beans; there were 1348 hills, which on the first picking yielded $38.

The yield, according to the account kept, amounted to $70, when having lost his minutes, he was unable to ascertain the entire amount. Of string beans he had last season two acres. From this lot it was not unusual to carry ten barrels in a day to market. In two weeks he carried from this lot to market 172 bushels, the average price of which was 67 cents per bushel, $115.24. At the same time the ground was occupied with other crops, such as melons, tomatoes, cauliflowers, cabbages, &c.

As soon as the beans had ceased to bear, the vines were immediately removed, and the ground being well cultivated, there was ample room and time for the other crop to grow. Many of his early vegetables are forwarded in hot-beds under glass. On most of the ground which he cultivates, he gets from two to four crops. A crop of radishes, lettuce, beans and cucumbers, may be had on the same ground the same season, and to these a fifth crop of fall spinach is sometimes added. In the present season he says, he has had crops, which by the old modes of husbandry would have occupied ten acres, growing upon four acres.

His practice is for the first crop, to give such a dressing of manure as will carry that and the succeeding crops well through without renewal. He never manures sparingly.

His onions are sowed in July or the first of August. They are lightly covered with litter in the fall, and early in the spring are uncovered and become soon fit for the market; and the crop is off the ground in season for its successor.

Mr. Pierce values very highly stable manure, and wishes to apply it to his crops in its hottest state. It then forces vegetation most rapidly and powerfully. For ashes he has a high estimation, and when the soap boiler calls to buy his ashes for the customary price of ten cents a bushel, he replies by offering the soap boiler 20 cents a bushel for all he has, and buys them if he can. I give his opinions as those of a strictly practical man, of much experience, and perhaps inferior to none in the admirable skill and success of his cultivation. It is pretty evident that he does not wait in the morning for the sun to call him.—***Coleman's Agricultural Report.***

For the Farmers' Cabinet.

Bucks County Wheat.

FRIEND PEDDER,—In a recent trip to the county of Bucks, the land of my nativity, I was highly gratified with the profusion of vegetation which covered the earth.

The wheat, that important crop to our country, however, was nearly gathered; and it was no uncommon thing to hear of a farmer having raised from five to twelve hundred dozens of wheat this season, and the Mediterranean being now generally sown, it was principally housed in good order. I saw but one field where the cradlers were at work, (July 21st,) and that upon an unbearded wheat, which was so rusted, that it was only worth cutting for the straw. The character of the Mediterranean is now fully established, as it is sown with as much confidence of reaping a fine crop, as oats or Indian corn, and indeed more so, perhaps, than any other crop. For, after minute inquiry, I could find no man who had ever seen it injured by the fly, and very rarely, and under the most unfavourable circumstances, as bad preparation and late sowing, by the rust. And finer bread I never saw than was made from this flour. And although the red chaff bearded, which for a long time has been the favourite in Bucks, did very well this year, yet W. S., one of the most prudent and thriving farmers in that section of the country, told me that after trying five different varieties within a few years, he now sows none but the Mediterranean; observing, "If I had given thirty dollars a bushel for my seed when it was first brought into the neighbourhood, I should have been the gainer." But he sows as early in September as circumstances will permit—and in consequence of the grain being large, he sows from one and a half to two bushels to the acre.

But the security from the rust and fly are not its only advantages to the farmer, for it may be sown on land so thin, that he would never think of risking any other kind of wheat upon it, and yet bring a good crop—and I know from experience, that thirty bushels to the acre can be raised after taking off a crop of potatoes, and without any additional manure—even when sown so late as the 11th of October, so that the rye crop will be almost superseded by it. But upon their rotation of cropping and some other matters, I may make a few remarks in your next number. M. B. S.

August 2nd, 1842.

BITTER pills may have blessed effects.

National Institution for the promotion of Science.

A MOVE has just been made in relation to this great enterprise, which appears likely to secure all its various and admirable objects; and that presently and effectually.

An informal meeting took place on friday evening, the 10th of June; the Hon. Joel R. Poinsett, president of the Institution, was there; and, besides the Secretaries of State and of the Navy, the Hon. John Quincy Adams, the Hon. Messrs. Preston and Walker, of the Senate, the Hon. Messrs. Tillinghast and Ingersoll, and other members of the House, a select assemblage appeared, of gentlemen eminent in divers departments of science, literature, and the arts.

Mr. Preston informed Mr. President Poinsett, that a bill would be presented to the Senate, advising an appropriation of twenty thousand dollars, for arranging and preserving the objects collected by the Exploring Squadron. He stated that Mr. Adams had prepared a report in relation to the disposition of the Smithsonian bequest, and said it would gratify him if that gentleman should think proper to communicate his views to the meeting.

Mr. Adams stated, that he had recommended the investment of the interest for ten years, four of which had already expired, to form a fund for the establishment of an observatory, with salaried officers, and the publication of a nautical almanac; upon both of which, the name of Smithson was to be forever stamped, that his memory might be inseparably associated with his munificence.

A conversation was now started upon a question, as to whether the object expressed by Mr. Smithson in his will, "the increase and diffusion of knowledge among men," would be covered by confining his bequest to any particular branch of knowledge; and especially to that branch whereby he himself appears to have been much less attracted than by several others. Mr. Adams answered, that the observatory being once founded, leaving the principal of the bequest untouched, he could see no objection to the appropriation of the interest which would afterwards accrue, to such other objects as were now suggested; but he considered it due to Mr. Smithson, that his money, devoted in the way it has been, should perpetuate his name.

Mr. Tillinghast thought it seemed to have been Mr. Smithson's ambition to interweave his name with that of our country, and consequently he conceived that the appellation of the American National Smithsonian In-

stitution might be substituted for the present one. Mr. Walker concurred in such a compromise, adding that the Smithsonian observatory, recommended by Mr. Adams, might form a part of the Institution under the more comprehensive title; in the support of which, not only might congress cooperate, but individual contributors, far and wide. The Secretary of the Navy cordially espoused the cause, and expressed his desire to aid the Institution by whatever the collections of the Exploring Expedition should yet yield, and promised his exertions with the other Secretaries.

A committee of five was appointed to confer with the Smithsonian Fund Committee, and with that of the Senate on the Institution, to ascertain whether their now conflicting views regarding the Smithsonian bequest, might not be reconciled advantageously for the Institution.

The meeting on monday evening last, to which the one on the friday previous, was preparatory, proved peculiarly brilliant. Notwithstanding the extreme inclemency of the evening, upwards of two hundred persons were present, and among them the President of the United States, the members of the Cabinet, many members of the two Houses of Congress, and a throng of distinguished persons.

Mr. Preston, in a burst of unsurpassed eloquence, dilated on the achievements of the Institution and its glorious prospects. Mr. Adams, it is said, has generously concurred in the general plan proposed. The Secretary of War put the seal to the movement by offering a resolution that a powerful effort should be made throughout the United States, to aid the great object by an appeal exhibiting the progress already effected, and that which seems now certain; for the furtherance of which, contributions, either in money or in materials, were to be invited from every quarter in our country, and to be associated with the invaluable collections of Mr. Smithson and of the Exploring Expedition. A committee has been appointed to carry out this excellent suggestion.

We note these matters, for want of time and space, but briefly; but we note them with more satisfaction than we can express. The subject is one of universal import; for this noble society, truly catholic in its spirit, is open equally to all, and there are very few of those for whom it possesses any interest, who have it not in their power to receive much from it and to bestow something in return. It needs no eloquence to prove that a national depository, to which illustrations and curiosities of science, the arts and literature, may be safely entrusted, either for a time or permanently, must prove, especially with the various inestimable adjuncts which enrich this, a national blessing; and as such, we invoke for it the national praise and patronage.—*National Intelligencer.*

Manufactory of Horse-shoes by Machinery.

Mr. Henry Burden of this city invented a machine for the manufactory of horse-shoes, and manufactured soon after its completion about 200 tons of the article. Not having, however, at that time sufficient room in his establishment to carry on this branch of manufacture conveniently, without detriment to his other business, he suspended it until this summer; having in the meantime made an essential and important improvement in his machinery, by which the horse-shoes now constructed are far superior to those made by the original machine. His new machines went into operation a few days since. Square, straight bars of iron are transformed into horse-shoes, grooved and punched at the rate of 15 per minute.

The machines are three in number. The iron being heated to a sufficient degree, is placed in the first, which cuts it off to the required length, flattens it, grooves it, and perforates it for the purpose of receiving the nails by which it is to be fastened to the horse's foot. It is next passed through the second machine, which bends it to the required shape; and finally to the third, which turns up the end of the shoe, to form the heel. Steel corks, made also by a machine, are afterwards welded on the shoe by a very rapid process, which completes the whole work. The shoes thus made, require no hammering or any attention whatever, but may be immediately applied to the use for which they are intended. The present cost of shoeing a horse by the old method, is one dollar and twenty-five cents. By the use of Burden's patent shoes, allowing the cost of nailing them on to be twenty-five cents per set, the cost of shoeing a horse will be reduced to fifty or sixty cents—or about one half the present cost. They are furnished of five different sizes, so that there will be no difficulty experienced in fitting horses' feet. Mr. Burden uses the best of Sweedes iron.

According to the last census, there are 4,000,000 horses in the United States. Allowing half of the number to require shoes, it is estimated that at least 25,000 tons of iron will be required to shoe them every year.—*Troy Whig.*

A New Disease of the Plum.

By Dr. T. W. Harris, author of the Entomological Report of the State of Massachusetts.

Last year an undescribed disease of the plum made its appearance in some gardens of this vicinity, in the latter part of the month of May, and has been observed again during the present season. Soon after the blossom had fallen, the fruit began to swell rapidly, and, in the course of two or three weeks, it had grown to more than ten times the size that it ordinarily attains in the same period. It was soft and compressible, as though it were puffed up with air, being filled with an elastic spongy substance of a whitish colour. In some of these inflated plums no vestige of a kernel remained; in others, a little, soft, and empty shell was found. After growing from one half to more than three-quarters of an inch in diameter, the fruit dropped, and by the middle of June no more of it was to be seen on the trees.

The cause of this puffy swelling of the fruit, and abortion of the kernel, is a little *thrips;* and several of these minute insects were found, on the 28th of May, on almost all the diseased plums. It is probable that they begin their attacks in the blossom, and that they prevent the impregnation of the ovule or young kernel, by destroying the pollen; and, by subsequently puncturing the plum, produce an irritation, which is followed by a rapid swelling and diseased condition of the fleshy substance of the fruit. Preternatural enlargements and distortions of the parts of flowers and of fruits, are known to be occasioned by the attacks of other species of *thrips.* This may be seen in the blossom of the black whortleberry, (*Resinous vaccinium;*) all parts of which, calyx, corolla, stamens, and ovary, are sometimes enormously enlarged, and entirely changed in texture and appearance, in consequence of the punctures of a kind of *thrips.*

It is not yet known how far this affection of the plum has extended. In this vicinity it seems to have been confined to certain trees only. Should the insects multiply and spread to other trees and other places, they will prove very destructive to the fruit hereafter. It remains, therefore, for the practical gardener to watch for their first appearance, and to devise some sure means of killing them, while the trees are in blossom and the fruit is forming. T. W. H.

Cambridge, June, 1842.

We invite the attention of our readers to the above. New insects and diseases appear to be upon the increase, and it becomes the intelligent cultivator to watch attentively for the causes which produce such dire effects on his fruit trees. We trust we shall be able to offer other communications from Dr. Harris, on the habits of the various insects which annoy trees and plants, and thus be the means of leading to discoveries for extirpating them.—*Ed. Magazine of Horticulture.*

On Setting Out the Fruit Garden.

One thing is worth bearing in mind by those who purchase fruit trees: the best kinds are generally as *hardy as the worst,* and the difference in price fades into nothing, when compared with the difference in quality. Nobody is satisfied with mean fruit after having tasted better. For a fruit garden, a western aspect is generally best, because it is the least subject to sudden transitions of temperature. Severe vernal frosts often prove injurious, or otherwise, according to the weather that follows: if the sky be overcast in the morning and the air continues cold, little or no damage ensues; but when the sun breaks out warm, the injury is greatest, and the most so, where the trees are exposed to its rays. For this reason, a hill or a wood on the east side may prove beneficial. A northern aspect would go far towards insuring regular crops of the peach, nectarine, and apricot, if protected from the sun and warm winds by a belt of evergreens. On sandy soils especially, the reflected heat is often sufficient in autumn and winter to *start* the buds, and snow and ice have been successfully* heaped around the trees to prevent this disaster; but a northern aspect would, probably, render such labour unnecessary. Dry, firm ground must be chosen, preferring a sandy or gravelly loam, although clay will do well with good culture, but, peaty or spungy soils are apt to be frosty, for the radiation of heat from such is much greater than from firmer land.—*Thomas.*

Good and Bad Tools.—A writer in the Maine Cultivator, illustrates the importance of having the best implements, by showing that a hand with an excellent axe, and a handle well hung, would cut a pile of wood in 12 days, which would require 16 days labour with a poor implement. The difference of cost in the two implements is supposed to be 72 cents, and in this one operation four dollars are saved by the use of a superior tool. This is a fair specimen of the loss or gain by good or bad management, in furnishing implements of husbandry.—*Far. Jour.*

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* The blooming of an apple tree was delayed a fortnight after the rest of the orchard, by piling wood around it.

For the Farmers' Cabinet.

American Aloe, or Century Plant.

I have, this afternoon, been much gratified by a visit to the great American Aloe, *Agave Americana*, now in full bloom, and exhibited at the Masonic Hall, in this city. As its name imports, it is a native of this continent, and in the verdant prairies of the South-west flourishes in great luxuriance. The popular impression seems to be, that it will not bloom until it has been matured by a *hundred* seasons. This, however, is not exactly the case. Loudon, in his Encyclopediæ of Plants, insists that it will flower sooner, or later, according to the culture bestowed upon it. In tropical climates, where it grows rapidly, and shoots out a number of leaves every year, it will bloom when thirty or forty years old; but in our colder, and more changeable one, a much longer period is generally necessary. If the plant had the same treatment as the pine-apple, Loudon thinks it would probably bloom nearly as often. Cowell of Hoxton, asserts that his own, in 1729, was the first genuine *Agave Americana* that ever flowered in England.

The present specimen, which the Ledger of to-day says is 95 years old, is one of the original plants grown by Wm. Hamilton, Esq., at the Woodlands, in this vicinity. After his death, it went into the McMahon family, and thus into the hands of its present owner, Bernard Duke. On the 17th of 5th mo. last, it first exhibited a flower stem; and from that time to the 8th of last month, this stem grew a little more than 20 feet, averaging more than 4½ inches per day. The greatest growth in any one day was 9 inches, on the day of its first appearance; and the least was 2 inches. "On the 8th of July, the stem seemed to cease in its upward growth, and commenced rapidly to throw out its lateral branches, and to form its buds, which consumed the greater portion of that month. On the 29th, it expanded its first flower, at which time the spread of the lateral branches from tip to tip was nearly five feet. The whole number of these is 22. The probable number of flowers which will be displayed on this plant, cannot be less than 1800 or 2000, and it will, if the weather be moderate, be likely to remain in florescence for three or four weeks. The appearance of the Agave is gorgeous and interesting; and its yellow flowers, though not so extremely beautiful when examined singly, yet the rich clusters which deck the summit and branches, present a magnificent spectacle." The plant, it is believed, never blossoms but once.

The cultivation of the Aloe is simple. It is easily propagated by means of suckers, which are produced at the sides, and from the roots of the parent plant. They may be safely kept in a green-house, or even in a dry cellar, during winter. They should, however, be placed in the open air early in the 5th mo., where they may be kept till the latter part of the 10th mo.; during this time they should be kept moist; but in the winter season, nearly dry. In America we have as yet had but three or four specimens to produce flower stems; the first of which did so at the Woodlands in 1804. "This plant first started its flower stem on the 28th May; it grew very rapidly, putting out branch after branch, till they numbered 27 in all, each of which contained 116 flowers. The first bloom appeared on the 29th of July, after which it continued five weeks in flower. It was visited by upwards of 20,000 persons." The next bloomed at Lemon Hill, near Fairmount, the seat of Henry Pratt, Esq., who generously presented it to the orphans' asylum of this city, and for whose benefit it was exhibited to upwards of 30,000 persons. This plant was only 43 years old. The largest, probably, that ever bloomed, belonged to the King of Prussia, and was upwards of 40 feet high.

In the *Cultivator* of this month, we find a notice of one of these magnificent plants, in the green-house of Gen. Van Rensselaer, of Albany. It has been in the family more than half a century, and is probably by this time in bloom. The flower stalk, a fortnight ago, was 17 feet high, and growing 7 or 8 inches a day. The owner, at the request of the managers of the orphans' asylum, has generously consented to its public exhibition, for the benefit of that institution, only reserving a free admission to his visiters, and to the tenants of the manor of Rensselaerwyck.

It is said that a soap is sometimes made in the West Indies from the leaves of this extraordinary plant, and that it will lather with salt water as well as fresh. The leaves —some of which on the specimen before us, are five feet long—may be used for scouring pewter, &c. The inward, spongy substance of the decayed stalk, is used for tinder; and the fibres of the leaves, separated by bruising and steeping in water, and afterwards being beaten, make a strong thread for common use. T.

Philad., 8th mo. 5, 1842.

If you would save labour, never suffer the grass to get ahead in any crop that needs culture. The old adage, a stitch in time, saves nine, is in no circumstances more to the purpose, than in farming.

Compost Manures.

As a general thing, our farmers do not appear to be sufficiently aware of the importance of making and saving manure; a subject unquestionably of the very first magnitude, as respects the advancement of our agricultural prosperity, and in which every farmer, however limited his circumstances, possesses sufficient facilities to enable him to engage with profit. Of these facts, it is presumed there can be no doubt. For many years, the only manure made use of on my farm, were those accumulated in the yards and sties; and without the slightest attention, on my part, to the operation of those natural laws, a knowledge of which has since enabled me, with slight expense, greatly to augment the quality also of my manures. Nothing is more common, than to hear individuals complaining that their farms are fast "running out;" that the soil, in their old fields, has not sufficient depth to sustain a crop, and is too poor to remunerate them for the cost of cultivation.

But why, if, as some contend, there is a natural propensity in all soils to deteriorate, or, as it is more popularly termed, to "run out," has the soil of Great Britain gone on rapidly increasing in productiveness for the last five centuries? Why is it, that many farms in Massachusetts, and even some few in Maine, where the doctrine has numerous supporters and abettors, have withstood the drain upon their natural fertility, by constant cultivation, for upwards of two hundred years? Farms of this description are by no means scarce in either state; and, although cultivated for so long a series of years, are now, instead of being worthless, and "run out," like many of a more recent date, the best and most productive in the land. The fact is, nature, in these instances, has received assistance, instead of being compelled, as in the case of all worn-out farms, to do all herself. For every crop taken from the soil, a prompt equivalent has been returned in fertilizing manure; and the farm, instead of being drained and exhausted of its energies, has actually received an increase of strength, and gone on accumulating, from year to year, the constituent elements of the food for plants. Shallow ploughing, and scanty manuring, will, in a short time, render the best land poor; while a contrary course, if judiciously pursued, will as certainly make poor land good.—*Far. Journal.*

Beets should be weeded when the ground is dry. Three times is the general rule, but a better rule is to weed and hoe just as often and as many times as the weeds make head, or the surface of the ground gets caked.

Prospects of Agriculture.

We have recently been on an excursion through a large part of this county and York, through the lower part of New Hampshire, and parts of Essex and Middlesex counties, in Massachusetts; and everywhere the crops of all kinds promise unusually well. There is no exception. The winter rye, both in quantity and quality, far exceeds the crop of any former year. We conversed with persons from the west, who have just passed through the greater part of Ohio, Pennsylvania, New York, and several of the New England States, who informed us that throughout their journey the fields were clothed with the most luxuriant crops. This is (with a few unimportant exceptions) the truth in regard to every section of the Union, if the united declarations of the public press are to be relied upon. Never was there a season that promised such abundant harvests since the first settlement of the country up to this time, as the present. Rich fields, laden with the choicest fruits of the earth, and in the greatest profusion, lie spread out from the borders of our own state and New Hampshire on the East and North, to the borders of Louisiana and Illinois on the South and West, and the seaboard to the Lakes; which together with a general state of health and the progress of temperance and morality, call for the gratitude and thanksgiving of all hearts to the Author of all good.—*Eastern Argus.*

From the British Gardener's Chronicle.

Asparagus.

A few weeks since, we reported briefly the substance of a paper upon the cultivation of asparagus in the north of Spain, which was communicated to the Horticultural Society by Captain Churchill, of the royal marines. This gallant officer was at St. Sebastian during its occupation by General Evans; and he profited by such leisure as his military duties afforded him, to make himself acquainted with the natural history and horticulture of Guipuscoa. We might content ourselves with merely referring the many inquirers who want to know how to grow asparagus well, to the report just alluded to; but in our opinion, it is much too important to be passed with so little attention.

Asparagus is probably the vegetable most generally admired and most seldom well cultivated; it is only here and there, that it is large, tender, and delicate. In country

gardens it is small, green and strong; in the London market it is long, white, hard and tough—to the eye attractive enough, but to the taste more like bleached timber than an esculent. Indeed we have never been able to comprehend the reason why, in this our age of improvement, some ingenious turner has not produced imitation sticks, which might be tipped with half an inch of eatable asparagus, and thus spare the necessity of cooking four-fifths of the stuff that is brought to a London table. Covent Garden asparagus is assuredly the worst in Europe. For this reason, when really fine asparagus is met with, people think it must be some peculiar sort. Obtain the roots from Vienna, Berlin, Hamburg, Battersea, or Deptford; and then, when they find them producing heads identical with what they had before, lay the blame to the seedsman, or the soil, or the climate, or anything rather than their own want of skill. There is but one sort of asparagus, be its name what it may; all the difference consists in its cultivation.

Captain Churchill says, the Guipuscoan asparagus measures from three to six, and more inches in circumference. How this is obtained, his excellent account leaves no room to doubt.

Asparagus is a plant found naturally on the beach of various parts of the coast of Europe, where it is covered by the drifting sand, and watered by salt water at high tides. Sand and salt water occasionally may, therefore, be regarded as indispensable conditions for maintaining it in health. How seldom is this thought of. It, however, explains in part the excellence of St. Sebastian asparagus.

It seems that at the mouth of the Urumea is a narrow slip of land, about three feet above high-water mark, consisting of alluvial soil and the wearing away of sandstone hills, at whose foot it is placed. This is the asparagus ground of St. Sebastian. Beds are formed five feet wide, without any previous preparation except digging and raking. In March the seed is sown in two drills, about two inches deep, and eighteen inches from the alleys, thus leaving a space of two feet between the drills. The rows run invariably east and west; doubtless in order that the plants may shade the ground during the heats of summer. When the seedlings are about six inches high, they are thinned to something more than a foot apart. Water is conducted once a day among the alleys and over the beds, so as to give the seedling an abundant and constant supply of fluid during the season of their growth. This is the cultivation during the first year.

The second year, in the month of March, the beds are covered with three or four inches of fresh night soil from the reservoirs of the town. It remains on them during the succeeding autumn, the operation of irrigation being continued as during the first season. This excessive stimulus, and the abundant room the plants have to grow in, must necessarily make them extremely vigorous, and prepare them for the production of gigantic sprouts.

In the third spring, the asparagus is fit to cut. Doubtless all its energies are developed by the digging in of the manure in the autumn of the second year; and when it does begin to sprout, it finds its roots in contact with a soil of inexhaustible fertility. Previously, however, to the cutting, each bed is covered in the course of March very lightly with dead leaves, to the depth of about eight inches; and the cutting does not commence till the plants peep through this covering, when it is carefully removed from the stems, in order that the finest only may be cut, which are rendered white by their leafy covering, and succulent by the excessive richness of the soil.

In the autumn of the third year, after the first cutting, the leaves are removed, and the beds again dressed with fresh night soil as before, and these operations are repeated year after year. In addition to this, the beds are half under salt water annually at spring tides.

Let any one compare the mode of culture with ours, and there will be no room for wondering at the difference in the result. The Spaniards use a light sandy soil; we are content with anything short of clay. They irrigate; we trust to our rainy climate. They know the value of salt water to a sea-coast plant; we take no means to imitate nature in this respect. They dress their beds with the most powerful of all manures; we are contented with the black residuum of a cucumber frame, which is comparatively a *caput mortuum*. Finally, they throw leaves lightly over their beds, by which means they expose the young sprouts to the least amount of resistance, and force them onward by the warmth collected from the sun by such beds of leaves; we, on the other hand, compel the asparagus to struggle through solid earth, capable in the smallest possible degree of absorbing warmth during the day, but ready to part with its heat again at night to the greatest possible amount.

Can any one wonder, then, at the poor results obtained by our manner of cultivation; or that some gardener should now and then astonish his neighbours by producing asparagus which we call giant, but which at St. Sebastian would be called second-rate?

We have received a communication of two and a half foolscap sheets, from our friend J. H. T., in reply to W., at page 343 of our June number. It came too late for the last number, and in this we really have not room for the whole of it.

It appears to us that the paroxysms of surprise, under the operation of which "W." was induced to invoke the "thousand and one" shades of Jethro Tull and others—as well as the "gentle castigation" intended for him by Mr. T.—would have been unnecessary, had they been so fortunate as not to have misunderstood each other's meaning. While Mr. T. is discussing the question, whether it is not injurious to the "*land*" to remove weeds from it, and giving it as his opinion—in which, it appears to us, every one must agree—"that the removal of a weed or anything else from the land, cannot benefit the spot on which it grew," the mind of W. is altogether filled with *amazement*, that *weeds* should not be removed from the *crop!* While one is talking about *land*, the other is thinking of the *crop!* And this, as it appears to us, has led to the difference between them: as the *surprise* of W. added to his *astonishment*—"Orsa upon Pelion, and Olympus upon both—the ghosts of the dead summoned from their repose," merely because the writers in question have mistaken each other's meaning when talking about a *weed!* That the simple removal of a weed, or of a thousand weeds, should benefit the spot of *land* on which they grew, is not supposed. The growth of *weeds* among *crops*, has not been "advocated." We would say, let the farmer keep his land as clear of weeds as possible:—but when nature, in spite of him, has forced them into life, let him not fear to remove them to his cow-yard, or hog-pen. "Though lost," in the language of Mr. T., "to the spot on which they grew, and that spot instead of being benefited by the removal, has been positively injured, still they are not lost to some other poorer spot on the farm. Passing through the stables and hog-pens, they are broken down, and receive many enriching qualities, and are thus made much more valuable. Thus a beautiful system is constantly going on; whilst the growing crops are exhausting at one point, manure is in process of making at another to repair the injury." Our friend T. would advise his "*young friend*" W.—he thinks he must be a *young* man, or he would not blow off so much steam,—"to continue his reading about Lord Leicester and other great farmers, just as he now does; but with his reading, he had better let Tull's ghost alone, and attend a little more to the *practical* part of making and applying manures." We heartily wish them both, as we do all our agricultural friends, success in farming;—and to ensure this, let them diminish the weeds, and add to the manure heap.—Ed.

We have been favoured with a visit to the farm of Mr. Benjamin Webb, near Wilmington, and have examined the acre of corn which his son, Mr. William Webb, is cultivating for the purpose of making sugar from the stalks the present season. The rows are two and a half feet apart, and the plants not more than an inch or two distant in the rows; the seed was drilled with a machine of his own invention, and has produced a crop of unprecedented vigour and uniformity. The yield is enormous, and so far as present appearances can warrant the conjecture, is expected to yield a quantity of sugar equal to Mr. Webb's calculation, namely, 1000 pounds per acre. The ears of corn are now in progress of extraction, and the fact is proved, that this part of the process can be performed to *profit*, the worth of the ear and leaf attached, being of more value than the labour required. Owing to close planting, perhaps, there is not more than one stalk in forty or fifty, which exhibits signs of fruiting—whether they will be equally productive in the saccharine principle as those more perfect in their formation, is a question which Mr. Webb's indefatigable spirit for research is destined to solve. The stalks are already full of sap, and some of them are showing signs of maturity; the juice from these is vinous and peculiarly agreeable to the taste, and there is no doubt that it might be made, in its present incipient state, to yield a wine for present purpose, far superior to any that could be made from the grape in this climate. It would appear, therefore, that the question in future will be—not what else can be made from the "universal corn-crop," but "what else *cannot* be made from it!" As we heard one observe the other day, "Why, 'tis meat, drink and clothing, lodging, washing and mending! Affecting one's life, character and behaviour—our prospects and happiness in this life, and fitting us for that which is to come, by engendering an universal spirit of industry and improvement throughout the length and breadth of the land." Mr. Webb deserves the thanks of the community for his untiring zeal in the cause.—Ed.

Since the publication of our last number, we have received "The Dollar Farmer," a monthly quarto of 16 pages, published at Louisville, Kentucky, by Prentice and Weissinger, the publishers also of the Weekly Journal. It contains a large amount of agricultural matter, and it appears to us can hardly fail to prove a valuable acquisition to the reading farmer. They promise to "spare no pains, energy or expense, to make it the guide and exponent of the farming interests of the great valley of the Mississippi;" and "hope to live to see the day when it will visit every cottage" in that vast region! A pretty broad wish truly! But we don't object to its realization; particularly, if meanwhile, our own *Cabinet* shall work its way into the hands of every farmer on *this side* the Alleghany ridge, and into those of as many on the other side, as choose. We feel much gratified in observing the number of articles taken from our little *nursling*, and wish the publishers all success in their enterprise.

We have received within a few days, as we suppose, from D. K. Minor, agent of the New York Poudrette company, a copy of the U. S. Farmer, extra, in which are several letters from persons who have used his prepared article, and speak favourably of the results. This company has been several years in operation, and the Poudrette prepared from *night soil*, appears to have been extensively used to the east of us; but we believe not much in the vicinity of our city. It may be used on corn in the hill; turnips; potatoes; vines; or as a top dressing for grass. Will not our farmers more generally give it a trial? The price is two dollars a barrel, or three barrels for five dollars;—and the quantity used, from 10 to 30 bushels per acre.

Sale of Durham Cattle.

We call the attention of our readers to the splendid sale of improved short-horn dairy cattle—a selection from the unrivalled herd of James Gowen, Esq., Mount Airy—which will take place on the exhibition ground of the Philadelphia Agricultural Society, Rising Sun, on the Germantown road, three miles from Philadelphia, on Thursday the 8th September, at 10 o'clock in the morning. Wolbert & Herkness, auctioneers. Catalogues will be ready for delivery in due time, and the cattle may be examined on the ground two days previous to the sale.

The stock, consisting of imported cows and bulls; and calves, from Dairy-Maid, Pocahontas, Victoria, &c., by Colostra, Prince of Wales, and Leander, will afford to breeders a rare opportunity of increasing their herds of pure-blooded animals of the highest character, and of creating a separation, so as to prevent over-close breeding.

We hope, in the progress of this volume, to see and to *feel*, a large addition to our subscription list. When a subscriber wishes to discontinue his paper at the end of a volume, he has only to pay his arrearages, if there be any, and advise us accordingly. Should, however, any fail thus to advise us, and our papers lie in the office uncalled for, will postmasters be so kind as to drop us a line? We ask of them also, a further continuance of their kindness in franking remittances to us.

We have prepared a Table of Contents, which it will be perceived, embraces a considerable variety of matter, and we think will be found convenient to our readers.

The quantity of rain which fell during the 7th month, (July) 1842, was ..... 11.8 inches.

This is the largest quantity of rain which has fallen during a month, since an account has been kept. Five inches and an eighth of an inch fell during a period of two and a half hours, on the evening of the 1st of July; and during the month it rained on fourteen different days.

Pennsylvania Hospital, Eighth month 1st, 1842.

☞ JOSEPH DRESSER,

Who has for several years acted as agent for our paper, particularly in Chester, and the adjacent counties in this state, has not been heard from for a long time. Our friends will *please Notice*, that he is no longer authorized to receive monies on our behalf. We would be glad to see him.

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